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HAZARDOUS MATERIALS TRANSPORTATION

HEARINGS

BEFORE THE

SUBCOMMITTEE ON SURFACE TRANSPORTATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON

THE TRANSPORTATION OF HAZARDOUS MATERIALS

APRIL 22, 24, AND MAY 12, 1987

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HAZARDOUS MATERIALS TRANSPORTATION

WEDNESDAY, APRIL 22, 1987

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON SURFACE TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:10 p.m. in room SR-253, Russell Senate Office Building, Hon. J. James Exon (Chairman of the subcommittee) presiding.

Staff members assigned to these hearings: Robert Holleyman, staff counsel; Sheryl Webber Washington, professional staff member; and Gerri Hall, minority professional staff member.

OPENING STATEMENT BY SENATOR EXON

Senator EXON. The subcommittee will please come to order.

This afternoon the surface transportation subcommittee will begin a series of hearings on the reauthorization of the Hazardous Materials Transportation Act. The act formed the basis for the Federal regulation of the transportation of hazardous materials, hazardous wastes, and radioactive material.

Truck, rail, aviation and water transports are all affected by this act. Concerns have been raised that the Hazardous Materials Transportation Act, first enacted in 1975, may no longer be adequate to ensure safety and meet the needs associated with the transportation of these materials.

State and local officials tell us that their local firefighters and others need training to respond to hazardous materials accidents. They tell us they need assistance from the Federal government for both funding and guidelines in dealing with these materials.

On the other hand, shippers and carriers of hazardous materials tell us that the state and local governments are increasingly imposing registration fees and restricting access for those who transport hazardous materials.

Industry argues that this poses a burden on interstate commerce and an unnecessary expense for those doing business in this area. These concerns and others have been raised in the context of hazardous material transportation. However, most important among these is the need to ensure safety.

It is this responsibility which is the primary concern of the Federal program and of this subcommittee's inquiry. Today's hearing is the first of three that are now scheduled on this topic. We will have additional hearings if, in the opinion of the Committee, that becomes necessary.

Based on the outcome of these hearings, the Committee will be acting to develop legislation to reauthorize the Federal hazardous materials transportation program. During the course of today's hearing we will be receiving an overview of the federal hazardous materials program.

We will first hear from our distinguished colleague, Senator Tim Wirth, regarding his diligent efforts, both in the House of Representatives and most recently in the Senate, to improve this program.

We will also be hearing from a panel representing the Office of Technology Assessment and the Congressional Research Service regarding the results of their studies on this issue.

Finally today, we will hear from a representative of the Hazardous Materials Advisory Council, an industry group, regarding their efforts on this important issue.

The subcommittee has also scheduled two additional days of hearings on this subject. On this Friday, April 24, at 9:30 a.m., the subcommittee will hear testimony from the Department of Transportation about the implementation of Federal programs. On the 24th we will further hear from witnesses representing state and local governments, carriers and shippers of hazardous materials.

A third hearing will be held on May 12 at 2 p.m., in which the transportation of nuclear materials can be specifically considered. It is my hope that through this series of hearings the Committee will be provided with a record upon which it can act in an effort to promote a safe and effective hazardous materials transportation program.

With these thoughts I call upon my colleagues for any remarks that they may have and then look forward to hearing from the first of our witnesses scheduled to testify today. Senator?

OPENING STATEMENT BY SENATOR ADAMS

Senator ADAMS. Thank you Mr. Chairman. I appreciate very much the opportunity that you have given all of us to participate in this hearing and I want to congratulate you on the early approach to it.

I approach this from a dual perspective. First as a former secretary of transportation who was deeply involved in this issue when it was created, in particular RSPA, and I am very concerned that we have our techniques and technologies in place so that we are handling the 1.5 billion tons of hazardous materials in the U.S. safely every year.

I approach it second as a Senator from the State of Washington, a target site for nuclear wastes repository and the site of one of three operating commercial low waste facilities and the site of one of the Department of Energy's largest nuclear material production facilities.

I am concerned about the failure of the Federal government to consistently and coherently address the issue of transportation of nuclear wastes. The study conducted at the request of this Committee, Mr. Chairman, by the Office of Technology Assessment, is a significant piece of work.

It clearly indicates that there is a lack of coordination among the Federal agencies who are working through this problem, and perhaps even worse a failure to clearly define the roles and responsibilities in terms of providing assistance to the state and local governments most directly affected by the shipment of hazardous wastes through their borders.

Mr. Chairman, I might state from personal experience as a secretary we had some very bad experiences where local authorities did not know, for example, how to handle propane, chlorine and other facilities which occurred on my watch there.

Mr. Chairman, in the area of transporting nuclear wastes, the present system is the process of making a date with disaster. We created a policy for disposing of nuclear wastes that was based on a dream and a prayer. And now some people seem to believe that we ought to continue to trust the fates in terms of shipping this most dangerous of wastes across country.

In fact, Mr. Chairman, trusting the fates is almost rational compared to what we are actually doing, trusting the Department of Energy. And make no mistake, this is not a hypothetical problem, decades away, if and when a repository opens. DOE shipments of transuranic wastes to the waste isolation pilot plant in New Mexico are scheduled to begin next year.

If there is one thing we have learned over the years it is that DOE is simply not the organization to which we ought to turn if we want real regulation or scientific studies or proven policies, particularly in the area of transportation. Yet we have given DOE primary responsibility for controlling the shipment of nuclear wastes.

The results should come as no surprise. State and local governments are unhappy. The public is at risk. And the system is in danger of collapsing on itself.

In the course of these hearings we are going to be looking at all of the problems associated with the shipment of hazardous wastes. But I hope my colleagues will understand if I return a significant number of times to the theme of nuclear wastes.

Because there is no problem more significant to the people of my state and there is no greater concern to the people of every state than the shipment of these highly radioactive wastes across country, without adequate preparation, without realistic emergency response systems in place, and without adequate protection.

Let us not forget that these nuclear wastes are being transported on the same transportation systems and in proximity to other hazardous materials. It is the mix of these dangerous materials, not the mere compartmentalization of how they are handled by one department.

This mix on the highways, railways and waterways with other materials such as propane, chlorine, not only toxic materials but those capable of creating fires of enormous heat and intensity in a short period of time. We must control this.

Finally, Mr. Chairman, we need to keep in mind that the purpose of the HazMat system is to prevent accidents. But we also must address the problem of emergency response when the prevention fails. That means we must recognize the primary role, and this is what I referred to earlier, Mr. Chairman, of state and local authorities and emergency response personnel in responding to these accidents.

Without fail it is these individuals which bear the first and inescapable burden of responding to the accident and protecting the public. As we consider the question of how the HazMat system is to be reauthorized, I believe it is essential that we recognize and need to provide more direct recognition of the role of state and local governments.

Again, Mr. Chairman, I thank you for calling these hearings. I think it is time that we bring the whole system up to date with our new technologies and particularly with all the new and very dangerous materials we are having to transport. And I thank you.

Senator EXON. Thank you very much. I cannot tell you how delighted we are to have you as an active Member of this subcommittee, and the Commerce Committee as a whole. Especially with your expertise previously as the very distinguished former director of the Department of Transportation.

So you have had a lot of experience in this and we are going to be picking your brain, Senator, as we go through this. And we appreciate your help and consideration.

Interestingly enough some of the things you just brought up are crossing all of our minds. Just five minutes ago, when I left the floor to come over here from a roll call vote, the Senator from Pennsylvania stopped me and he was right on point with the concerns that you have just expressed, primarily because of the recent problem in Pennsylvania.

Last year the governor of Nebraska stopped at the border of Nebraska a nuclear wastes train that had not been properly cleared, they had not received notice as they had been promised. And I think this is something that we have to get into and we have heavy responsibilities in this area.

Thank you for your input and your advice and we will be looking forward to your help. Before we go to our first witness I will call on Senator Pressler. Do you have an opening statement?

OPENING STATEMENT BY SENATOR PRESSLER

Senator PRESSLER. Very briefly, I shall submit a statement to the record.

Senator EXON. Without objection.

This is one of the most important hearings in this Committee and the issues of the public's feelings for safety, as well as the need for the economy to move such materials.

There are two sides to every question. I just recently came from a meeting on the production of energy, and the production of any kind of energy does some polluting. But it is very important to senior citizens and everybody that we have energy, that we have materials moved about. It supplies consumers with essential products. But we need to find the safest way to do it.

So I sit here not merely as a critic of people trying to do this but in an effort to try to help them out and work with them. With that, Mr. Chairman, I yield back my time.

Senator EXON. Thank you very much, Senator Pressler. I have a statement from Senator Hollings which will be included in the record.

[The statement follows:]

OPENING STATEMENT BY THE CHAIRMAN

Today the Surface Transportation Subcommittee will hear testimony on the Hazardous Materials Transportation Act as a part of our reauthorization mandate.

We will carefully consider the findings of the Office of Technology Assessment [OTA] study regarding the transportation of hazardous materials—a study that was requested by this Committee. I am specifically interested in the operation of the current hazardous materials program within the Department of Transportation; training for handlers of hazardous cargoes and emergency response and enforcement personnel; consistency of Federal/State regulations; routing efforts; and public information, including data collection and community right-to-know.

It concerns me that many State and local jurisdictions do not believe that current Federal regulations provide an adequate margin of safety. As a result, these communities have found it necessary to pass additional regulations to control risks—such as registration and permit requirements, and routing and time of day restrictions. I am convinced that greater consistency in regulations at the Federal, State and local level would serve to improve enforcement and ease burdens on Commerce associated with various intergovernmental regulatory interpretations.

A significant finding by OTA is that over 60% of reported vehicle accidents and hazardous material spills are caused by human error. We must work to reduce this staggering figure. Similarly, we must develop a national strategy to provide training for the Nation's estimated 1.5 million State and local emergency response and enforcement personnel.

At the very least, we should undertake efforts to establish and utilize adequate training guidelines for different levels of reponse.

What DOT can do presently is better coordinate and analyze existing data-collection activities to determine regulatory priorities and provide helpful information for State and local planning. Complete and accurate documentation on how much and where hazardous material is transported annually by each mode, as well as good recordkeeping of accidents and spills, can increase our ability to react quickly and effectively when emergencies occur.

We in government have a responsibility to provide for the safety of our citizens. Greater communication, training, and enforcement of reporting requirements must be our immediate priorities.

Senator EXON. I am pleased now to recognize our colleague, Senator Tim Wirth from Colorado, who has lots of background and experience in this area.

We would now be pleased to recognize you, Senator Wirth, for your statement and any suggestions that you have in this tremendously important area.

STATEMENT OF HON. TIMOTHY E. WIRTH, U.S. SENATOR FROM COLORADO

Senator WIRTH. Thank you very much. I am delighted to be here and to share my thoughts with such a distinguished panel as this, one with the great expertise that the three of you have.

I come to this hearing today to share some of the experience I gained chairing a subcommittee in the House that had a lot of responsibility for this area. We introduced legislation last year after extensive discussions with most elements in the industry, particularly the trucking industry.

Let me just quickly say that I think the job of putting together a strong and effective piece of legislation is not going to be that hard. We found remarkable cooperation from the trucking industry, all aspects of the trucking industry. Their representatives worked with us, were very forthcoming, and were very aware of the problem that we face.

I had the feeling going in, I will blunt to say, that we were going to get resistance right down the line. Not the case at all. With one minor change in the legislation, all of the various affected trucking groups were with us, they wanted to help, they wanted to get the legislation through. We just ran out of time last year.

The legislation we introduced last year addressed all of the issues that you all have talked about today. You know how important the problem is and increasingly the people of the country are becoming aware of the problem.

This is not just one shipment of goods. This is hundreds if not thousands of mobile Bhopals going down the highway every day. And the possibility that we could have for a very serious disaster is, as all three of you pointed out in your opening comments, absolutely real.

I also look at this problem not only from the perspective of that House subcommittee and working with the industry, but also with the perspective of a state that is deeply affected by the transportation of hazardous materials.

We had, as Secretary Adams, Senator Adams, will remember, a potentially grave accident in the Denver "mousetrap" intersection some years ago. Probably the most important, or the busiest intersection, I would not say the most important but the busiest intersection between Chicago and Los Angeles, runs right through the city of Denver, at the intersection of I-25 and I-70.

One morning a couple of years ago a load of torpedoes was, in the words of the driver, boogying down the avenue, early in the morning, with an improperly trained driver, he should not have been driving that truck, and using the wrong route. The truck overturned.

And suddenly Denver found itself, a few hours before rush hour, with torpedoes strewn across the intersection. Well, the city and county of Denver and the state officials did not know what to do. Were these torpedoes about to go off? And who did they belong to?

State officials called the Air Force. The Air Force came up, took a look and said, not our torpedoes, they must belong to the Navy. So while the city waited, during rush hour, the city was closed down, the intersection was closed down, the whole community was paralyzed. Eventually, we discovered that the torpedoes belonged to the U.S. Navy and they came and ultimately hauled the torpedoes away. And nobody was hurt.

Everybody, however, was absolutely frightened to death, as they should have been. Imagine if that had been a live torpedo. Imagine if that had been some other kind of a shipment of hazardous defense materials. And by the way, Mr. Chairman, until very recently transportation of materials from the Defense Department was treated with exactly the same kind of regulation as the transportation of a truckload of lettuce.

You know, there is a great deal of difference, if you are sitting and looking at that kind of an intersection in Denver, between a load of torpedoes and a load of lettuce. But they however were treated in just the same way.

Senator EXON. The main difference is that the torpedoes cost a whole lot more.

Senator WIRTH. Unhappily, that is the case as well, as you and I from agricultural areas are aware of the fact. But that was the third problem that has arisen for us, the third area that leads me to be here today.

The fourth is the geography and the topography of the State of Colorado, in which I-70, the main corridor going east-west, goes through the Eisenhower tunnel. Those of you who have skied at Aspen and Vail are certainly aware of the fact that that is the major route going through the Rocky Mountains.

Increasing loads of hazardous materials go up over the top of the Eisenhower tunnel over Loveland Pass, but once down through on the other side they are going through dozens of very, very small communities. Those small communities simply would not know how, as you pointed out Senator Adams, would not know how to respond in a disaster.

So the experience that I hope I bring to these deliberations, based upon our legislative work in the other body, the great cooperation we found from the industry, the near disaster that we had in the city of Denver, and the topographical problems that we have in the State of Colorado, is that we must move quickly on the question of the regulation of hazardous materials.

Very briefly, Senator Gore and Rockefeller and I will be introducing legislation based on last year's bill. We've changed it to reflect the progress we made last year, and what we have learned since then. That legislation focuses in five areas.

First, the need for state and local governments to designate safe routes and safe havens. That is the whole routing question, which is talked about a great deal. But combined with that is the safe haven issue.

If you are a tired truck driver with a load of hazardous materials, where do you park? Where do you rest? And is that going to be a safe place for that truck to be? Could the truck be hijacked or sabotaged? Should we, as we believe we should, designate a set of safe havens?

Second, the whole question of local emergency response. Probably the best response gear available in most local communities is a pair of sneakers, which people there can get and run away from the spilled hazardous materials.

Other than that, for the most part, they do not know what is on the trucks, do not have the capability to respond to a whole variety of different hazardous materials, which are not marked anyway, and do not have the trained personnel or the necessary technology to deal with emergencies. So that is the second issue, local emergency response capability.

Third, the registration of carriers and shippers. One might guess that would be resisted by the industry. We found that the industry was saying, hey we know that we have liability problems. We would like to work with you in assuring that people know what is on these trucks and know how to respond.

Fourth, the issue of workers who load and handle hazardous materials. The same training issue, not as severe as that for local communities, but one in which I think that we can work through a set of standards for the training of local workers, of workers who are loading and unloading these trucks.

Finally, Senator Adams brought up the point of the transportation of nuclear wastes and the special set of problems there. That is going to be particularly acute as we finally decide upon, sometime I hope in the near future, on a repository for spent nuclear wastes. When that does happen, there is going to be a funnel for nuclear materials coming into that area.

No matter where it is sited, our state is going to be one of the major transportation corridors. Whether it is east-west or north-south, we are going to have a great deal of material going through the State of Colorado and once again we urge you to focus and move this needed legislation quickly.

A final note. We focused in our legislation predominantly on the trucking industry. We do not get into the rail area, which presents, I realize, another set of issues. Perhaps you are thinking of including that in your legislation.

In any case, Mr. Chairman, that is a summary of our legislation. We look forward to working with you. This is an enormously important task that you are undertaking and once again I want to commend you and your colleagues for taking it on and we look forward to working with you.

Senator EXON. Thank you very much. We appreciate your thoughts. We are going to be working very closely with you because of your expertise in this very important area.

One thing that I would like to correct, an obvious error made in your testimony, in that Interstate 80 is the main east-west highway running through Nebraska, not I-70. That was just a misstatement of your part.

Senator WIRTH. Did I say Nebraska?

Senator EXON. You said I-70 running through Colorado is the main east-west interstate. I-80 is the main east-west interstate.

Senator WIRTH. I was thinking only in the provincial way of the main route going east-west and, you know, I am a new Member of the Senate.

Senator EXON. I know how you Members of the House are. I have one question but I am going to yield to another former House Member.

Senator WIRTH. I took lessons in the House from Senator Adams.

Senator ADAMS. After that I have no comment, Mr. Chairman. I know when both of us are well off to leave it where it lies.

Senator WIRTH. Senator Pressler is showing the extraordinary discretion of leaving. Thank you very much.

Senator ADAMS. I do want to thank you, Mr. Wirth, and I think it is an excellent statement. The humor that the Chairman and I share in with you masks our concern as it does yours. And we are very grateful for your statement. Thank you.

Senator WIRTH. Unfortunately, there is kind of a black humor to the way in which we treat a lot of this hazardous material. It is terribly serious and one of the only ways that one can get around the serious nature of it is perhaps with a touch of humor.

Senator EXON. I did have one question, Senator Wirth. What are the states doing in this area? What has the governor and the legislature in Colorado done, have they taken any action on this or are they kind of waiting to see what we do up here?

Senator WIRTH. In the State of Colorado, unfortunately, I cannot say I am proud of what the State of Colorado has done. I believe the state legislature has really laid down on the job over the last few years in the face of great efforts by the governor's office to move legislation on the transportation of hazardous materials.

We do however have a new governor and something of new leadership in the state legislature and are hopeful that we will see some action there. What is required in all of this is, as we all know, a partnership between the states and the Federal Government.

We cannot do it all ourselves nor can they. We are dealing in interstate commerce here and I do believe we are going to find, if we take the lead at the Federal level and sort of lay out the general approach, I think we will find some very, very good cooperation from the states, especially since it is my own experience that industry will be with us.

Senator EXON. In your preparation for the bill that you talked about last year in the House, did you receive much if any input from any of the states with regard to their views on this matter? I think it has to be a partnership arrangement and I am wondering if you were able to sound out or get much input from the states.

Senator WIRTH. We did, not only among the states but from various individual states. I think there is a group of secretaries of transportation in the states who submitted testimony. We worked with them. We worked with state revenue groups. We worked with, as I say, the various impacted industries, again on the trucking side, not on the rail side. We did not get into that.

But within the State of Colorado I had a task force of Republicans and Democrats, of rural and urban people, who came very rapidly to the same conclusions that the outside groups did.

So all of that again leads me to say, although this may be a bit naive, that I think the task is going to be easier than it might have been a few years ago because of the sense of urgency that is felt by just about everybody. And it is our job, I believe, to catalyze that, pull it together and bring it to fruition in terms of the kind of progressive legislation that this Committee is famous for.

Senator EXON. Senator Wirth, thank you very much. We appreciate your coming.

Senator WIRTH. Thank you, Senator Exon.

Senator EXON. We will call our next panel now. The next panel is Ms. Edith Page, Office of Technology Assessment from Washington, and Mr. Paul Rothberg, Congressional Research Service, Library of Congress.

Ms. Page and Dr. Rothberg, we appreciate you coming today to help us out.

I think you can tell with the opening statements and the first witness, Senator Wirth, that this is something that we are extremely concerned about and we are certainly going to need the help and advice of experts such as yourselves to help us out as we work our way through this tangle, which I suspect is going to become much more of a problem in the future unless we begin to do something about it.

I am going to recognize both of you. Are you prepared to go first, Ms. Page? Or you, Dr. Rothberg?

STATEMENTS OF EDITH B. PAGE, OFFICE OF TECHNOLOGY ASSESSMENT AND DR. PAUL ROTHBERG, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS

Ms. PAGE. It is a pleasure to report officially to this subcommittee on the results of the Office of Technology Assessment study on the transportation of hazardous materials.

In June 1984 the full Senate Committee on Commerce, Science, and Transportation asked OTA to look at a spectrum of issues related to the transportation of hazardous materials.

The Committee released the completed report in July of 1986 and three of the policy issues raised in it were addressed by legislation at the end of the 99th Congress—a national, uniform truck driver's license, community emergency planning, and community right-to-know guidelines.

Indeed the effort to achieve a uniform truck driver's license was spearheaded in the Senate by the Commerce Committee, as you well know.

During the course of OTA's research we closely scrutinized activities falling under the the Research and Special Programs Administration at the DOT. We found the RSPA staff unfailingly courteous and cooperative and moreover, as RSPA became aware of some of the strongest criticisms of their program, they began to reevaluate and change some of their activities. I would like to commend the staff for this.

This afternoon, however, I will speak to several of the policy and program issues that remain unresolved. As a result of our work we found that more than 60 percent of the hazardous materials transported each year move over the nation's roadways.

I have a map of the Federal aid to highways systems here, and this includes all of the interstate systems——

Senator EXON. Did you say 70 percent?

Ms. PAGE. Sixty percent. That is a lot of tonnage being carried by trucks.

Senator EXON. I do not want to interrupt you but the other 40 percent then would be mostly rail and some waterway? Is that right?

Ms. PAGE. The next largest percentage is carried by water, because the amount that is carried in any barge or any freighter is so large. In fact on the table at the end of the prepared testimony the percentages are given. And I believe that rail transport is 73 million tons transported annually.

Truck transport is 927 million tons. That is a lot of tons.

Senator EXON. I am surprised.

Ms. PAGE. We were too. That was one of the surprises of the study.

The largest number of shipments occur in the Gulf coast area. This is by all modes. That reflects the major petrochemical facilities located there.

There are rail, barge and truck lines up the Mississippi valley to the Great Lakes states. There is another major cluster of facilities over in the Middle Atlantic states, so that there is transportation going both ways, from the east to the west and the west to the east.

You can see why Pennsylvania, Ohio, Indiana and Illinois have heavy transportation by road. There are other manufacturing facilities clustered in different places in the Southeast. In the West the largest cluster is in southern California.

Now all of these other dark blue lines are the interstate roads over which major truck shipments are carried, and I would remind you that the shipments of spent fuel are requested to stay on the interstate roads as much as possible, because those are the safest transportation routes for those shipments.

Despite the fact that I have just told you where the major number of shipments takes place, shipments of hazardous materials occur everywhere and anywhere in the country, and they range from gasoline, which is the most commonly carried substance, to toxic pesticides and advanced industrial coatings.

Federal records imply that hazardous materials accident rates are low. However, we found that accident and spill reporting systems are so uncoordinated that many incidents are not recorded, and that in fact the damages from hazardous materials transportation accidents annually may be at least ten times higher than those reported to Congress by DOT.

We found that human failure and lack of information and advanced planning rather than equipment failures cause most accidents, spills and injuries. Indeed, over 60 percent of reported vehicle accidents and hazardous materials spills are caused by human error.

OTA's study identified four major policy issues for Congressional consideration. I will mention them briefly now, although my written testimony gives more details. Many of our findings are relevant for the consideration of the reauthorization of the Hazardous Materials Transportation Act, which we are here today to talk about.

We found that the development of a national strategy to provide training for an estimated 1.5 million state and local emergency response personnel is the primary unmet national need. We estimated that about three-quarters of the nation's emergency response folks have not received adequate hazardous materials training.

Training guidelines, adequate funding, particularly at the local level, and information are the key components of such a strategy. Of these, we found that adequate funding remains the most elusive goal.

I want to emphasize personally that as I am asked to speak around the country this is one issue that continues to come up repeatedly. Just two weeks ago I was in Cincinnati talking to some fire instructors at an international conference. It was raised again there. This is one part of this topic that just does not go away.

Training for the first line of response in hazardous materials transportation accidents is particularly important because of the randomness inherent in a transportation spill. Unlike a spill at a fixed site where the presence of a hazardous material is expected and known, a transportation spill can occur almost anywhere and anytime.

Furthermore, police, firefighters or other emergency response personnel may reach the scene first and need to deal with the emergency. Different branches of government are responsible for each of these groups. The problem of who is in charge here takes on new meaning when state and local officials, your constituents, attempt to ensure that all their potential response forces are trained.

I would like to go into why this confusion exists a little bit. At the Federal level, for example, three agencies have direct responsibility for training—EPA, the Coast Guard and FEMA.

EPA's primary role is training for high level response to a fixed facility spill. The Coast Guard trains for spills on water. And FEMA's authority comes from the Civil Defense Act, so training for hazardous materials emergencies has always taken a distant back seat.

You will notice I did not mention first response for transportation accidents in that list. That is because no agency at the Federal level has been given direct responsibility for training for such accidents. RSPA's responsibilities are in the areas of regulation and enforcement.

The National Response Team, an inter-agency group chaired jointly by the Coast Guard and EPA, is the only common meeting ground for all of these affected agencies.

As you know, DOT, EPA, FEMA, the Nuclear Regulatory Commission and DOE all address hazardous materials problems. We found that their regulatory agendas and programs to provide technical assistance to state and local governments are not well coordinated.

The unclear lines of responsibility confuse state and local officials. I am reiterating many things you told us in your opening remarks, but we found this in our research just as you have found it in speaking with your constituents.

Furthermore, state and local officials often do not feel that Federal regulations provide them with adequate protection, and they pass additional regulations to control risks. The resulting registration programs, permit requirements and routing and time of day restrictions create a regulatory patchwork that complicates enforcement and is burdensome to industry.

Even within DOT, as Senator Adams knows, regulatory and programmatic responsibilities are shared by five agencies. Our study indicated that inter-agency coordination within DOT needs continued emphasis and improvement.

Improved information about the transportation of hazardous materials would help state planning and preparedness. This is not to say that a computerized real-time database on all hazardous materials shipments is either feasible or cost-effective.

It is, however, to point out the importance of stepped-up Federal technical assistance to states and local jurisdictions that may be considering routing restrictions or other transportation regulations. Such assistance could assure that decisions take into account the impact of routing decisions on neighboring jurisdictions.

Our research also showed that state inspectors have found high violation rates of Federal hazardous materials regulation. In addition, industry personnel have told OTA that education of small shippers and carriers about hazardous materials transportation regulations occupies a major portion of their own training efforts.

A RSPA outreach information program aimed at such constituents and mandatory training for shippers, carriers and freight forwarders could begin to reduce the high violation rates.

At the Committee's request OTA focused especially on the containers for radioactive materials. Our finding was that the standards set by the Nuclear Regulatory Commission for spent fuel containers produced exceptionally durable containers, if the standards are meticulously followed during cask manufacture and during transportation.

Under these conditions, the containers provide a much greater degree of public protection than that afforded in any other current hazardous materials shipping activity.

We all take for granted the conveniences of modern life that are brought to us by the petroleum, chemical and nuclear industries that use and transport hazardous materials. In fact, we could not do without them in our daily lives.

Yet while most of these materials transported reach their destinations safely, we do hear almost daily of accidents. Just last week residents of Gary, Indiana were evacuated because a tanker filled with hydrochloric acid overturned and released enough acid to form a cloud over the area.

Such routine accidents and the infrequent and spectacular ones, like the Bhopal incident or Senator Wirth's torpedoes in Colorado, underscore the special dangers associated with hazardous materials and the need for constant vigilance to prevent these events and to prepare citizens to handle them safely when they do occur.

In closing I would like to say that OTA is pleased to have participated in identifying for Congress some of the major concerns related to this essential commerce. There are few other activities that arouse such broad and intense interest in every segment of the population and in every part of the country.

[The statement follows:]

STATEMENT OF EDITH B. PAGE, PROJECT DIRECTOR, OFFICE OF TECHNOLOGY ASSESSMENT

Good afternoon. It is a pleasure to report officially to this Subcommittee on the results of the Office of Technology Assessment's [OTA] study on the Transportation of Hazardous Materials.

In June 1984, the full Senate Committee on Commerce, Science, and Transportation asked OTA to look at a spectrum of issues related to the transportation of hazardous materials, with specific attention to data and information systems, containers, and training for emergency response and enforcement. The Committee released the completed report in July 1986, and three of the policy issues raised in it—a national, uniform truck driver's license, community emergency planning, and community right-to-know guidelines were addressed by legislation at the end of the 99th Congress. Indeed, the effort to achieve a uniform truck driver's license was spearheaded in the Senate by the Commerce Committee. This afternoon I will speak to several of the policy and programs issues that remain unresolved.

More than 60 percent of the hazardous materials transported each year move over the nation's roadways, making public exposure to an accidental release from a truck much more likely than for rail, barge, or air (see attachment A). OTA's analysis shows that the largest number of hazardous materials shipments occurs in the Gulf Coast area, reflecting the major petrochemical plants located there. From Texas and Louisiana, shipments fan out, with major barge, rail, and truck routes up the Mississippi Valley to the Great Lakes area and rail and truck routes Northeast and Southeast to the Middle Atlantic and Southern Atlantic States. Southern California has an additional major concentration in the west. However, shipments of hazardous materials are found everywhere in the country, ranging from gasoline to toxic pesticides and advanced industrial coatings.

Much of OTA's research involved scrutinizing activities falling under the Research and Special Programs Administration (RSPA), the Department of Transportation (DOT) agency charged with primary responsibility for carrying out provisions of the Hazardous Materials Transportation Act. OTA worked with RSPA throughout the course of the study and found the staff unfailingly cooperative and courteous. Moreover, as RSPA became aware of the strongest criticisims of its programs, it began to evaluate its activities and to make changes from within. Substantial progress has been made, particularly in the area of coordinating DOT data-collection activities, and I would like to commend RSPA staff for their efforts on this and in several other areas that I will discuss specifically later.

Current Federal records imply that hazardous materials accident rates are low. However, OTA found that Federal Accident and spill recordkeeping have been so uncoordinated that many incidents are not recorded. Moreover, DOT's major spill database records only spills that occur during interstate commerce. Damages from hazardous materials transportation accidents appear to be at least 10 times higher than the annual amount reported to Congress by DOT. RSPA's efforts to coordinate DOT data collection and work with the Environment Protection Agency (EPA) to ensure more complete spill reporting should begin to bear fruit later this year. OTA recognizes the complexities of integrating hardware purchased at different times and software developed for different purposes. RSPA has made a good start, which needs to be enhanced and continued if DOT's annual hazardous materials transportation report to the Congress is to provide an accurate source of information.

As you know, DOT, EPA, the Federal Emergency Management Agency (FEMA), the Nuclear Regulatory Commission, and the Department of Energy all address hazardous materials problems. OTA found that their regulatory agendas and programs to provide technical assistance to State and local governments are poorly coordinated at the working level. Memoranda of Understanding between top agency officials have limited impact unlelss they are stressed throughout the agencies, particluarly at the program implementation level. The current unclear demarcations of responsibility are confusing to concerned State and local officials, who consider many of the Federal programs insufficient and underfunded. Furthermore, State and local jurisdictions do not feel Federal regulations provide adequate safety, and many have passed additional regulations to control risks. Such State and local registration programs, permit requirements, and routing and time of day restrictions create a regulatory patchwork that complicates enforcement and training and is burdensome to industry.

OTA's research also showed that human failure and lack of information and advance planning, rather than equipment failures, cause most accidents, injuries, or environmental damage. Indeed, over 60 percent of reported vehicle accidents and hazardous materials spills are caused by human error. Most current Federal programs do not directly address this major problem area.

The OTA study identified four major policy issues for congressional consideration: training, regulatory consistency, data and public information, and containers. The OTA findings for many of these issues are relevant to the reauthorization of the Hazardous Materials Transportation Act, the subject before this Subcommittee.

TRAINING

Approximately 2 million firefighters, police officers, and other emergency service personnel are potential first responders to hazardous materials transportation accidents. OTA estimates that 75 percent of this total population has not received any hazardous materials training or may be in need of specialized training. Training for the first line of response at a hazardous materials transportation accident is particularly important because of the randomness inherent in a transportation-related spill. Unlike a spill at a fixed site, such as a manufacturing facility, where the constant presence of hazardous materials and potential for a spill are everyday facts of life, a transportation spill can occur almost anywhere and anytime. This randomness makes assigning programmatic responsibility difficult at every level of government, because police, firefighters, or other emergency personnel may reach the scene first and need to deal with the emergency. Different branches of government are responsible for each of these groups, and the coordination that leads to the most effective response is very difficult to achieve.

At the Federal level, for example, three agencies have direct responsibility for training for emergency response—EPA, the Coast Guard, and FEMA. EPA's primary role is training for high level response to a fixed facility spill; the Coast Guard trains for response to serious spills in water, and FEMA's authority comes from the Civil Defense Act, so training for hazardous materials emergencies has always taken a back seat. Because RSPA has lead responsibility for transportation matters related to hazardous materials, some have looked to RSPA for assistance will emergency response training; yet RSPA's responsibilities are in the areas of regulation and enforcement.

OTA finds that development of a national strategy to provide training for an estimated 1.5 million State and local emergency response personnel is the primary unmet need. Training guidelines appropriate for different levels of response, adequate funding, particularly at the local level, and comprehensive information on existing resources are the key necessary components. While many public and private training program exist, they are not standardized, and most do not address the needs of personnel in small urban or rural areas where there is little familiarity with the special dangers associated with hazardous materials.

The National Response Team and the National Fire Protection Association, responsible for the establishment of minimum professional standards for firefighters, have recently begun to develop training standards for hazardous materials response. Although still several years off, a resolution to the need for such standards is on its way. A total funding goal for basic first responder training could be between $15 and $25 million for both public and private sources. If Congress chooses to provide additional Federal funding for emergency response training, a modest annual Federal program of $5 to $7 million could supplement existing Federal, State, private, and local expenditures. Possible Federal funding sources include general tax revenue, the fuel tax, or a special fund derived from a user fee levied on industry. I would like to note that Title III of the 1986 reauthorization of the Superfund Act does designate $5 million for State and local emergency response planning and training. The money is to be passed through FEMA and used in part to support FEMA's technological hazards program; the remainder will go to the States. OTA feels that this funding is a start, but that insufficient funds will be available for States and localities to have a noticeable impact on training needs.

In striking contrast, training for hazardous materials enforcement is far better organized, largely because RSPA has had direct responsibility for this, and the need for better training was clearly shown a number of years ago. However, Federal budget constraints have reduced Federal enforcement below an effective level, and many more inspectors need to be trained. The number of work-years devoted to hazardous materials inspections by Federal inspectors fell from 237 in 1979 to 111 in 1984. The Motor Carrier Safety Assistance Program provides some essential funding support for State motor vehicle enforcement and training programs. OTA finds that additional support is needed for both Federal and State enforcement training, and that increased levels of enforcement personnel are needed in all modes.

In addition, OTA concludes that the development of mandatory training requirements for shippers, carriers, and freight forwarders could increase safety substantially. Such training could focus on procedures for loading and unloading, and fastening, blocking, and bracing hazardous materials containers.

FEDERAL/STATE REGULATIONS

Within DOT, enforcement responsibilities are now shared by five agencies. The Research and Special Programs Administration is the lead agency for establishing multimodal hazardous materials regulations, except for bulk marine shipments, which are regulated by the Coast Guard; the modal administrations—the Federal Highway Administration, the Federal Railroad Administration, the Federal Aviation Administration, and the U.S. Coast Guard—are responsible for safety regulations, including the development of hazardous materials regulations, applicable to each mode. OTA's research shows clearly that the enormous volume of hazardous materials moved by truck makes motor carrier transport a major concern. Our study also indicates that interagency coordination at DOT needs continued emphasis and improvement, and that the centralized intermodal authority for hazardous materials regulations that RSPA represents is extremely important. OTA also finds that improved coordination within DOT and among other Federal agencies needs encouragement through every possible means.

Greater consistency in Federal, State, and local regulations would improve enforcement and ease burdens on interstate commerce. Stepped up Federal technical assistance to State and local jurisdictions considering routing restrictions or other independent regulation of hazardous materials could ensure that decisions take into account the impacts on neighboring jurisdictions and provide a level of safety at least equivalent to Federal regulations. A program such as that at the Oak Ridge

National Laboratory to restructure their extensive computerized transportation risk analysis capabilities for use on microcomputer could, with greater support, provide State and local jurisdictions with usable tools and information for making routing decisions.

Extending Federal reporting requirements for hazardous materials releases to intrastate highway transportation would provide far more complete information on hazardous materials spills. OTA recognizes the legal and technical complexities inherent in requiring RSPA to do this. However, RSPA could work with the Commercial Vehicle Safety Alliance and the Motor Carrier Safety Assistance Program States to develop common report forms for transportation related spills as part of routine traffic accident investigation. Such reports could provide a basis for collection of data at the State level that would be far more comprehensive than relying on reports to a centralized reporting center.

Enhanced data and information collection could enable DOT to complete a study of general transportation patterns for hazardous materials that would provide useful information for Congress and the public. In addition, a registration program for those engaged in the transportation of hazardous materials would provide DOT with essential information about the community it regulates.

PUBLIC INFORMATION

Improved information about the transportation of hazardous materials, including shipments of spent nuclear fuel, would help State emergency planning and preparedness. According to OTA's research, State inspectors have found high violation rates for such regulations as the placarding requirement, for which recorded violations range from 25 percent to almost 50 percent. In addition, industry personnel told OTA that education of small shippers and carriers about hazardous materials transportation regulations occupied a major portion of their training efforts. An outreach information program aimed at such constituents could begin to reduce this high rate of violation, once a registration program is established that will identify the target community for RSPA.

More coordinated Federal data-collection activities could help DOT set regulatory priorities and provide useful information for State and local planning. Knowledge of the extent and nature of hazardous materials manufacture and storage in the community is essential for accident prevention and response planning. However, locally conducted data collection, such as hazardous materials facilities inventories and transportation surveys, has value beyond the data it produces, bringing the added benefit of acquainting the concerned parties with each other. A local facilities inventory can guide the purchase of equipment, choice of training, location of response facilities, and assignment of personnel, and can provide a good indication of most of the hazardous materials transported in the jurisdiction. However, OTA finds that a comprehensive, real-time database on all hazardous materials shipments, as has been proposed by some officials, is neither feasible nor cost-effective.

CONTAINERS

Better Federal coordination in setting container regulations for rail, highway, water, and air is essential. In one special area, however, the regulatory process has so far worked well. The standards set by the Nuclear Regulatory Commission for spent fuel containers produce exceptionally durable containers if the standards are meticulously followed during cask manufacture and transportation. Under these conditions, the containers provide a much greater degree of public protection than that afforded in any other current hazardous material shipping activity.

Accident data raise serious questions about the safety of transportation for two types of containers—the stability of the tank trucks used to transport gasoline and the types of truck chassis that carry portable tanks suitable for transport by ship, rail, or truck. The agencies within the Department of Transportation should scrutinize the standards for each of these with great care.

We take for granted the amenities of modern life brought to us by the petroleum, chemical, nuclear, and other industries that use and transport hazardous materials. Yet while most of the 1.5 billion tons of these materials transported annually by land, water, and air in the United States reach their destinations safely, we hear almost daily of an accident involving them. Within the last two weeks, residents of Gary, Indiana, were evacuated because a tanker filled with hydrochloric acid overturned and released enough acid to form a toxic cloud over the area. A derailment in Pennsylvania caused a tank car filled with a different toxic substance to overturn, and two successive evacuations of community residents were necessary during attempts to stop the spread of the material and right the tank car. Such "routine" accidents and the infrequent spectacular ones underscore the special dangers associated with hazardous materials and the necessity for constant vigilance to prevent these events and for intensifying efforts to prepare citizens to handle them safely when they do occur. OTA is pleased to have participated in identifying for Congress some of the major concerns related to this essential commerce.

ATTACHMENT A

ESTIMATED TRANSPORTATION OF HAZARDOUS MATERIALS IN THE UNITED STATES BY MODE IN 1982

Mode	Number of vehicles/vessels used for hazardous materials	Tons transported	Ton miles
Truck	337,000 dry freight or flat bed 130,000 cargo tanks	927,000,000	93,600,000,000
Rail	115,600 tank cars	73,000,000	[1] 53,000,000,000
Waterborne	4,909 tanker barges	549,000,000	636,500,000,000
Air	3,772 commercial planes	285,000	459,000,000
Total		1,500,000,000	784,000,000,000

[1] 1983 data; 1982 data was too filled with errors to allow calculations.

Source: OTA calculations based on Federal data augmented by other resources.

ATTACHMENT B

CALCULATIONS FOR COSTS OF HAZARDOUS MATERIALS EMERGENCY RESPONSE TRAINING FOR FIRST RESPONDERS [1]

Target audience: First responders—firefighters, police, hospital emergency room staff, and ambulance drivers.

Size of target audience: 1.5 million (approximate).

Nature of training: Basic training covering identification of hazardous materials, the importance of self protection, protection of the public and environment, and the notification of authorities.

Duration of training: Modular training geared to appropriate target audiences would be developed and taught by trained instructors. Must provide opportunities for role playing and group problem solving and acquaint response pesonnel with the unique dangers of hazardous materials response.

Key cost components: Course development, handout materials/workbooks, instructional services, training personnel, travel, and equipment.

Estimated average cost per trainee: $100.[2]

Estimated trainee completions per year: 150,000 to 225,000.

Required funding: $15 to $22.5 million.

[The following information was subsequently received for the record:]

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[1] This type of training emphasizes the differences between hazardous materials response and firefighting. Training covers the dangers inherent in hazardous materials accidents, how to identify hazardous commodities, appropriate responses, and the application and use of protective equipment. Basic training is not designed to cover advanced hazardous materials reponse techniques or cleanup procedures.

[2] OTA estimates based on tuition for existing courses and interviews with officials and course instructors. Charges vary widely—one large and successful 2-day program is free, whereas another more comprehensive 3-day course charges tuition of $450.

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JOHN H. GIBBONS
DIRECTOR

June 22, 1987

The Honorable Ernest F. Hollings
Chairman
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

I am pleased to respond to the question in your letter of June 5 about OTA's findings on improper placarding for hazardous materials shipments. It may be helpful to divide discussion of the significance of this problem into two parts: (1) the number of vehicles improperly placarded and (2) the importance of this to the public and particularly to emergency response personnel.

In our research for the study of the Transportation of Hazardous Materials, OTA consistently heard estimates from State enforcement officials that between 25 and 50 percent of vehicles carrying hazardous materials are improperly placarded. A 1980 Virginia Department of Transportation study found the rate of improper placarding to be at least one-third. Through OTA's continuing contacts with persons concerned with hazardous materials, we continue to acquire information that shows no improvement in this rate. The Quarterly Safety Inspection Report for January - March 1987, for the motor carrier section of the Indiana State Police, shows that 160 of 345 trucks carrying hazardous materials had improper placarding — a violation rate of 46 percent.

OTA found that accurate placards are crucial for the safety of emergency response personnel because the placards provide essential, basic information about the cargo. Indeed, the fact that DOT has a regulation requiring the placards is a recognition of the importance of this information. OTA knows of two serious events where improper information caused injuries. An accident involving an unplacarded truck of toluene diisocyanate that occurred on the New York State Thruway resulted in permanent lung damage to two police officers. Another spill, this one in Delaware, sent 50 local emergency response personnel to the hospital, because the information they had on the characteristics of the cargo was inadequate. OTA's interviews with fire fighters and other emergency and enforcement personnel indicate that in their minds accurate placarding and good response information are key to carrying out their responsibilities safely.

If I can provide further information, please do not hesitate to call me at 226-2175.

Sincerely,

Edith B. Page
Project Director

Senator Exon. Ms. Page, thank you very much. It was an excellent statement. We will ask some questions. If it is the will of the subcommittee I think we will move on to Dr. Rothberg, then ask questions of both of them at the same time. Thank you. Dr. Rothberg.

Dr. Rothberg. During the last 15 years, I have had the responsibility at CRS of analyzing and monitoring DOT's hazardous materials transportation safety program. Based on this experience I would like to offer some observations.

The focal point at DOT for this program is RSPA, the Research and Special Programs Administration. During the last 12 or 13 years, the budget for this agency has remained relatively stagnant in the area of roughly $6 million to $8 million each year. Because of the professional dedication of people at DOT, some aspects of this program have gradually improved.

Due to the efforts of industry, and partly due to government regulations and plain luck, the number of deaths from the transportation of hazardous materials has also been held relatively small in relationship to the catastrophic potential that these materials offer. In a typical year, according to DOT data, which is neither comprehensive nor complete, roughly 10 to 20 people die each year because of the release of hazardous materials during transportation.

In view of the competing demands on our national transportation safety budget, we need to ask: How much more can we afford to spend in this area? Thus, we have the option of allowing the current DOT program to continue to develop without additional Congressional guidance or additional resources.

However, every single group that has looked at this program, from the National Academy of Sciences, to the National Transportation Safety Board, to my colleagues from OTA, and including my work at CRS, has found major areas of concern with this program. Pursuing the path of this program would be risky.

In response to the findings of these various groups and organizations, Congress may now wish to provide additional guidance and resources for this program. It is within this context that I would now like to present six legislative options, each of which is designed to improve the DOT program and to promote transportation safety.

As you have requested, I will also comment on RSPA's fiscal year 1988 budget request.

Legislative option number one: specify how DOT should assist state and local governments in this area of hazardous materials transportation.

The current law, the Hazardous Materials Transportation Act, provides little guidance on how RSPA should assist State and local governments in promoting hazardous material transportation safety. In the virtual absence of this guidance, RSPA has instituted its own program of assistance that is meeting only some of the needs of State and local governments. However, numerous other requirements are not being met.

When considering the reauthorization of this Act, Congress may wish to provide a policy statement, put its own stamp, on exactly what DOT should be doing in this area to help State and local governments. For example, Senator Wirth suggested there is one opportunity to provide more definitive and better safe havens. There are also opportunities to develop better routing guidelines, and to specify DOT's role regarding whether it should be a mediator in settling disputes in this area between States.

A mandate from Congress might also be useful in delineating and coordinating this agency's role, vis-a-vis that of other Federal agencies, and would certainly be useful in conducting future congressional oversight of this program.

Option number two: require DOT to issue better training regulations for handlers of hazardous materials. In a recent CRS study we found that human error was judged to be the probable cause of roughly 65 percent of some 24,000 recent incidents or spills of hazardous materials involved in transportation.

We believe that improved training and testing of the workers out on the loading docks, the warehousemen, and the loaders and unloaders of trucks, may reduce the frequency of human error.

However, when we analyzed the adequacy of DOT's training regulations for workers handling these materials, we found numerous areas of concern.

With respect to the highway-related regulations, we found that DOT's regulations are vague, they lack specificity in some cases, they do not specify the frequency, content, objectives and length of the required training. DOT does not require industry to test and certify that the highway-related workers have a basic understanding of and sensitivity toward the hazardous properties and safety risks of the chemicals being transported.

The law that you passed last year, 99–570, will make a tremendous impact in terms of the licensing and thus training of drivers, but it wasn't intended to deal with all the workers on the loading docks and the handlers of hazardous materials in all other modes of transportation.

Option number three: mandate the extension of DOT's hazardous materials transportation regulations to cover all intrastate shipments. Because of time I can address the rationale for this option during the question and answer period.

Legislative option number four: require DOT to improve its emergency response regulations. The information contained on the shipping papers that accompany hazardous materials in transportation can play a major role in assisting responders in many accident situations, but the required shipping papers could do a lot more.

For example, DOT could require that a shipper of a hazardous material supply emergency response information to a hotline or communication system that is staffed 24 hours a day, and that the telephone number of the communication center having that information be listed on the shipping paper.

Although there would be some financial costs associated with additional regulations in this area, they are expected to be small.

Legislative option number five: provide additional funds to State and local governments to improve their ability to respond to hazardous material spills in transportation. Numbers studies have indicated the need to improve the capability of emergency responders to deal with spills of hazardous materials. Very rough estimates of funding to make such improvements range between $20 million and $100 million each year.

In these times of budget deficits, it is unlikely that such sums could come directly from the general revenues. Thus, there are a variety of other mechanisms that the Committee may wish to consider regarding how this money could be raised to meet the needs of emergency respondents.

One of the options that you may wish to consider includes a registration fee. Have the industry register; when they submit their documents to DOT they pay a fee. Another option might be a fuel excise tax similar to what was set up to handle some of the problems for handling leaking underground storage tanks. The way this fee mechanism works is as follow: when you pay for your gasoline, or you pay for aviation fuel or marine fuel, you pay .1 cent per gallon additional excise tax. The funds raised each year could be enough to train a large number of emergency responders.

With this option you raise funds through a tax mechanism and put the money into a separate trust fund account and have DOT distribute the monies to States and have the States pass through a certain percentage to local governmental entities.

And our last option is to specify a minimum civil penalty assessment for companies that violate the hazardous material transportation regulations. Now the last law in this area that dealt with these violations was Public Law 93–633. In that law Congress set a maximum penalty level of $10,000 per day per violation, but congress did not set a minimum penalty level. Other transportation safety laws, such as the railroad transportation safety law, do have a minimum penalty level.

The option here is to set a minimum floor level of, let's say, $500 per violation. If industry violates the Federal hazardous material transportaton regulations that are issued, then industry would receive a clear signal that they are going to pay a minimum penalty amount of $500.

What this does is to put some force behind DOT's enforcement program, and it might promote greater compliance, send a strong signal to non-compliers and to States who look towards the Federal enforcement program for guidance, and promote uniformity in DOT's penalty system.

However, a minimum penalty assessment mandated by law. Would take away some of the discretionary authority that DOT officials now exercise and might impose an economic hardship on some truck companies or some drivers.

In closing, I would like to offer just a few comments on RSPA's fiscal year 1988 budget request which, if enacted, should promote a modest strengthening of their program.

Even with the requested increases in staff and program support, the RSPA program still faces an enormous backlog of regulatory development and exemption handling. Even though RSPA wants to increase its inspection force from 12 to 13, they still will be able to inspect only a minor sample of this Nation's intermodal shippers, exemption holder's container manufacturers, and drum reconditioners.

Bank in 1979, CRS prepared a study for this committee in which we stated that RSPA, "does not have the resources (personnel, research, and support money) to perform properly all of the functions, that have been assigned to it." Because of the additional responsibilities that have been added to this agency's tasks, especially under the Nuclear Waste Policy Act and the Superfund Law, and because of the increased shipments of these materials, our 1979 conclusion is even more valid today.

Therefore, if Congress conducts a major reauthorization of this Act and assigns this agency yet additional responsibilities, it is likely that they are going to need additional manpower and resources to conduct the new responsibilities.

I would welcome the opportunity to respond to any questions that you might have.

[The statement follows:]

STATEMENT OF DR. PAUL F. ROTHBERG, SCIENCE POLICY RESEARCH DIVISION, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS

Mr. Chairman and members of the subcommittee, CRS appreciates this opportunity to testify this afternoon. Reports by CRS, the Office of Technology Assessment and others all have pointed out that the current Federal program for hazardous materials transportation safety merits concern. These studies find that the current program could do more to meet the basic goal of the Hazardous Materials Transportation Act, which is "... to protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in commerce." In particular, the current program could better meet the needs of State and local governments in responding to emergencies resulting from accidents involving carriers of hazardous materials, and it could issue adequate training regulations for workers handling hazardous materials in transportation.

There are competing demands on our Federal budget in general and the transportation safety budget in particular, however, and limitations on the resources needed to meet those demands. Therefore, questions must be asked about how much we can afford in the way of additional funds and regulations to address the problems identified by the CRS and OTA studies. Indeed, the number of deaths and injuries from the transportation of hazardous materials, according to Federal data, has been small compared to some other transportation activities. Thus, there remains the option of allowing the current program to develop without additional statutory regulation or increased funding which may result in some savings. The above mentioned studies find that this path is risky, however, and the Congress may wish to provide additional guidance and resources for the program. In making such a determination, there are a number of options that the Congress may wish to consider. In this context and in response to the Committee's request, I will present six legislative options that you may wish to consider when you take up the Hazardous Materials Transportation Act for reauthorization. These options are based on the analyses mentioned above, particularly those portions which focus on DOT's implementation of this Act. As requested, I will also offer some comments on DOT's FY 1988 budget request for its Research and Special Programs Administration (RSPA), which is the focal point of much of DOT's hazardous materials transportation program.

OPTION NO. 1: SPECIFY HOW DOT SHOULD ASSIST STATE AND LOCAL GOVERNMENTS IN THE AREA OF HAZARDOUS MATERIALS TRANSPORTATION SAFETY

More than 12 years have passed since Congress enacted a substantial reauthorization of the Hazardous Materials Transportation Act. Accordingly, it is not surprising that current law does not effectively deal with the Federal/State/local partnership that has evolved in this area. For example, current law provides little guidance on how RSPA should assist State and local governments in promoting hazardous materials transportation safety. In the virtual absence of such guidance, RSPA has instituted its own assistance program that is meeting only some of the needs of many State and local governments in such areas as training and emergency response. However, numerous other needs are not being met.[1]

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[1] This subject is discussed in detail in: U.S. Congress. Office of Technology Assessment. Transportation of Hazardous Materials. July 1986.

When considering the Hazardous Materials Transportation Act for reauthorization, Congress may wish to provide a policy statement and guidelines about the objectives, scope, and nature of RSPA's assistance to State and local governments. For example, legislation might specifically authorize or direct DOT to: (1) issue routing guidelines to assist States and local governments in their development of routing regulations, (2) provide grants to States to establish safe havens for trucks, (3) serve as mediator in routing and other regulatory disputes, or (4) provide various forms of technical, policy, financial and training support to State and local governments. A congressional mandate might also be useful in delineating and coordinating RSPA's role vis-a-vis that of other Federal agencies and could be useful in conducting future oversight of RSPA's program.

OPTION NO. 2: REQUIRE DOT TO ISSUE MORE SPECIFIC AND SUBSTANTIVE TRAINING REGULATIONS FOR PERSONNEL AFFECTING HAZARDOUS MATERIALS TRANSPORTATION SAFETY

In a recent CRS study, we found that human error was judged to be the probable cause of roughly 65 percent of some 24,000 incidents or spills of hazardous materials involved in transportation that were reported to DOT for the years 1982 through 1985. We believe that improved training and testing of the personnel handling hazardous materials may reduce the frequency of human error.[2]

When we analyzed the adequacy of DOT's training regulations for workers handling these materials, we found numerous areas of concern. For example, we found that DOT's general training regulations covering workers in the highway mode are vague. They do not specify the frequency, content, objectives, and length of the required training. DOT does not require industry to test and certify that these workers have a basic understanding of, and sensitivity toward, the hazardous properties and safety risks of the chemicals being transported. Nor do these regulations require testing of these workers to ensure understanding of appropriate emergency response procedures for releases of hazardous materials.

RSPA officials recognize the importance of improving DOT's training regulations for all personnel affecting hazardous materials transportation safety. In fact, RSPA is working on a regulatory docket to accomplish this. However, without a congressional mandate, there is no guarantee that DOT will issue timely, comprehensive, and improved training regulations.

DOT is also aware that it frequently has been difficult to pursue enforcement actions regarding alleged violations of its training regulations, especially in the highway mode. If DOT's regulations were made more specific and if documentation of the nature and frequency of training were retained in personnel records, we believe that compliance might be encouraged and enforcement would be facilitated.

It should be noted, however, that complying with additional Federal training requirements would cost some companies money and the specific benefits of additional training may be difficult to prove.

OPTION NO. 3: EXTENSION OF DOT'S HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS TO COVER ALL INTRASTATE COMMERCE

DOT has not extended its hazardous materials transportation regulations [HMTR] to cover the transportation of all hazardous materials in intrastate commerce, even though it agrees it has the authority to do so. For example, DOT's HMTR do not specifically apply to local deliveries of gasoline by a company operating exclusively in intrastate commerce. From a safety perspective, we are not aware of any reason why the same Federal hazardous materials transportation safety regulations that affect interstate commerce should not be used to cover all interstate shipments.

By extending the coverage of existing DOT regulations, uniformity would be promoted and DOT would be able to gather more useful information on the probable cause, number, and severity of hazardous materials transportation incidents that occur in intrastate commerce. If this extension were mandated by law, it would be important to give the Secretary the regulatory flexibility to implement an appropriate phase-in period for any special situations that might involve economic hardships, e.g., small intrastate companies using non-DOT-specification tank trucks. The economic impact of this option on some small intrastate operators should not be underestimated.

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[2] Rothberg, Paul F. Should DOT's Training Regulations Affecting Workers Handling, and Drivers Transporting, Hazardous Materials Be Strengthened. Congressional Research Service, The Library of Congress, Apr. 4, 1986.

OPTION NO. 4: REQUIRES DOT TO IMPROVE ITS EMERGENCY RESPONSE REGULATIONS

The information contained on shipping papers that accompany hazardous materials in transportation can play major role in assisting emergency responders in accident situations. DOT could improve substantially the usefulness of these shipping papers to emergency responders. For example, DOT could require: (1) that a shipper of a hazardous material supply emergency response information to a hot-line or communications system that is staffed 24 hours a day; and (2) that the telephone number of the communications center having that information be listed on the shipping paper. Shippers could make use of existing emergency response systems, such a CHEMTREC, or establish new systems to meet these requirements.

Another option would be to direct DOT to issue regulations requiring the *Emergency Response Guidebook* [ERG] or an equivalent document to be readily accessible to trained employees working with hazardous shipments (in transportation) at loading docks and shipping terminals throughout the United States.[3]

Although there would be some financial costs associated with these options, they are estimated to be small.

DOT is considering concepts similar to these presented above to improve its emergency response regulations, but currently there is no assurance DOT will issue final regulations in these areas.

OPTION NO. 5: PROVIDE ADDITIONAL FUNDS TO STATE AND LOCAL GOVERNMENTS TO IMPROVE THEIR ABILITY TO RESPOND TO HAZARDOUS MATERIALS TRANSPORTATION INCIDENTS

Various studies, such as the OTA report. *Transportation of Hazardous Material,* have indicated the need to improve the capability of emergency responders to deal with hazardous materials transportation incidents. The precise amount of money needed to meet adequately the training and equipment needs of emergency responders working for State and local governments is unknown.[4] Rough estimates that have been discussed by various interested parties range between $20 million to $100 million per year. In these times of budget deficits, it is unlikely that this sum could come from general Federal revenues.

A variety of other mechanisms, however, are available to raise such amounts. For example, Congress may with to consider requiring DOT to assess a registration or user fee on most of the hazardous materials transportation industry as part of a mandated registration program.[5] Given the size of this industry, a sliding scale with a maximum fee of perhaps $5,000 per year for the largest of companies—with most companies paying between $100 to $500 per year—might be established that would raise substantial monies for emergency response purposes. Collection of this fee from some companies might be difficult and implementation of such a program could place an administrative burden on DOT if additional personnel and/or contract funds were not provided. Perhaps a small percentage of the funds collected could be used to cover DOT's administrative cost of conducting such a program.

In keeping with the current trend toward user fees, another alternative might be to raise funds for training and equipment by increasing the Federal fuel excise tax by perhaps 0.1 cent (which is 1 mil) per gallon. This funding mechanism could be modeled after the LUST trust fund that was recently set up in P.L. 99-499 to address some of the problems associated with leaking underground storage tanks. Collection of the monies through a fuel tax mechanism would be much easier that by a registration program, but almost all users of gasoline, diesel, or aviation fuel would pay this user fee or tax. However, it can be argued that, since everyone benefits from the use and safe transportation of hazardous materials, everyone should contribute to improving emergency response to transportation accidents involving such materials.

In return for receiving such funds, States and localities might be required to give up their right to impose permit or registration fees that are also collected for the purpose of raising funds to pay for identical emergency response activities. As now structures, these fees are inadequate to yield effective response capabilities for all State and local governments.

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[3] These employees could be trained on how to use the ERG and what its limitations are.

[4] Title III of the Superfund Amendments and Authorization Act of 1986 requires the development of emergency response planning documents, which should help assess some of the needs of State and local governments.

[5] Certain segments of the industry, such as farmers transporting small quantities of ammonia, might be exempted from having to pay a registration fee or from having to register.

If increased Federal assistance is provided for training and equipment, such assistance could effectively be coordinated with the purposes and activities set forth by Title III of the Superfund Amendments and Authorization Act of 1986 (P.L. 99-499). To accomplish this, a State or local government applying for such funds could be required first to develop the emergency response plans required under Title III of P.L. 99-499. DOT's financial assistance program also would need to be coordinated with existing industry emergency response and training efforts and related Federal programs.

In order to ensure that increased Federal assistance reaches local governments, DOT could distribute the monies to the States who could then be required to pass through at least 50 percent of the funds they receive from the additional 0.1 cent fuel tax to local governments.

The amount of funds received by State and local governments would need to be large enough to encourage participation in this program. If enough States agreed to participate, two objectives would be met: (1) States and localities would receive funds to help meet their training and equipment needs, and (2) the trucking industry would likely face a smaller financial burden because fewer States and localities would impose registration or permit fees.

The creation of a new Federal source for training and equipment could raise questions of fairness or equity. Since some communities have already invested substantial sums of their own funds in developing sophisticated hazardous materials response teams, why should people living in these communities be taxed again? It also can be argued that guidelines or standards for training courses should be developed and additional needs assessments should be conducted before funds are allocated in the manner outlined above.

OPTION NO. 6: SPECIFY A MINIMUM PENALTY ASSESSMENT OF PERHAPS $500 PER VIOLATION OF A REGULATION ISSUE PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT

In P.L. 93-633, Congress gave the Secretary of Transportation the authority to impose a maximum civil penalty of $10,000 per violation per day of a regulation issued under the Hazardous Materials Transportation Act. However, Congress set no minimum civil penalty level in this Act as it did in the Federal Railroad Safety Act of 1970, which requires a minimum civil penalty assessment of $250 per violation of a regulation issued under that Act.

In determining the amount of a civil penalty that is actually assessed under the Hazardous Materials Transportation Act, Congress directed the Secretary to consider several factors, including; the nature, circumstances, extent and gravity of the violation committed, history of prior offenses, and ability of the person or company to pay. Even though these factors should be considered, DOT officials can still exert a great deal of discretionary authority in setting the amount of a final penalty assessment.

Since approximately 1980, DOT has begun to increase the size of civil penalties it has imposed for violations of regulations issued under the Hazardous Materials Transportation Act. In fact, many enforcement cases now result in substantial assessments. However, DOT still continues to impose some penalty actions that might be considered low in relationship to the maximum civil penalty allowed under law and the factors that must be considered in assessing a penalty.

Consequently, Congress might want to consider requiring DOT to impose at least a minimum civil penalty amount in all cases in which the Department pursues a penalty assessment. Imposing at least a minimum civil penalty assessment might:

1. Promote greater regulatory compliance (the costs of detected non-compliance can be made to outweigh the benefits);
2. Ensure that all of DOT's penalty actions are more meaningful and instructive than without such a minimum;
3. Send a strong signal to non-compliers and to States which look toward the Federal enforcement program for guidance;
4. Help reduce possible unfair competitive advantages that some companies might gain as a result of not complying with the regulations; and
5. Promote uniformity in DOT's penalty system (uniformity is extremely limited now; DOT officials in each mode set their own penalties).

However, a minimum civil penalty assessment mandated by law would take away some of the discretionary authority that DOT officials now exercise and might well impose an economic hardship on some truck companies or drivers.

RSPA'S FISCAL YEAR 1988 BUDGET REQUEST

RSPSA's FY 1988 budget request, if enacted, should promote a modest strengthening of RSPA's hazardous materials transportation program. Besides providing for new personnel to address pressing regulatory problems and to increase the number of inspections, RSPA seeks to improve and expand its assistance to State and local governments. Thus, the proposed budget begins to address many key areas of management and programmatic concern that have been repeatedly raised by most reports that have evaluated this program.

Even with the requested increases in staff and program support, the RSPA program still faces a large regulatory docket backlog, including some 50 petitions that industry wants RSPA to act on and various important regulatory dockets that RSPA plans to pursue. Added to this workload is a backlog of almost 400 requests for new and renewal exemptions to current DOT regulations. Even if the inspection force is increased from 12 to 13, as requested in the FY 1988 budget, RSPA will be able to inspect only minor samples of this Nation's intermodal shippers, exemption holders, container manufacturers, and drum reconditioners.

In a 1979 CRS report to this Committee, we concluded that RSPA "does not have the resources (personal, research, and support money) to perform properly all of the functions that have been assigned to it." [6] Because of additional responsibilities that have been assigned to this agency as a result of the Comprehensive Environmental Response, Compensation, and Liability Act of 1986 ("Superfund" law) and the Nuclear Waste Policy Act and increased shipment and regulation of hazardous materials and hazardous wastes, our 1979 conclusion is even more valid today. Therefore, if RSPA is given yet additional responsibilities as a result of a major reauthorization of the Hazardous Materials Transportation Act, then RSPA will likely need additional manpower and financial resources to implement the program and policies Congress designs and authorizes.

Senator EXON. Thank you very much. Excellent testimony. I will hold my questions until later using the early bird rule. I am pleased to recognize Senator Adams.

Senator ADAMS. Thank you very much. I thank both of you for your testimony. Ms. Page, my questions will come basically from your summary which you have produced for the committee.

I understand there is a memorandum of understanding between DOT and DOE which makes DOE's compliance with procedures and standards related to the transportation of nuclear materials strictly voluntary, whereas it is mandatory for everyone else.

Can you tell me why there is such a double standard and, for example, how does DOE decide when to voluntarily notify states and local communities as was indicated in the case of Senator Exon with Nebraska of shipment of nuclear research or other materials, and when does it leave them in the dark?

Ms. PAGE. The agreement I believe states that the DOE will follow requirements that are equivalent to those of the DOT for the shipments that pertain to research or are defense related, for example, or special shipments. There are some that fall into a rather undefined category.

It is in the area of deciding what is equivalent and what is not that some misunderstandings have arisen. Allowing DOE to exercise judgment has caused confusion for the states. For example, DOE regards notifying a state that there will be a shipment of a research load of spent fuel, for example, or a series of shipments, sometime within the next month as notification, as equivalent to the notification that they are required to give for commercial shipments.

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[6] U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. Hazardous Materials Transportation: A Review and Analysis of the Department of Transportation's Regulatory Program. April 1979.

Senator ADAMS. But is it?

Ms. PAGE. The States do not feel that it is. Many states prefer to know exactly what day and within a time frame of 12 hours.

Senator ADAMS. If you were the governor of the state or local sheriff, would you prefer to know what day to have your team in place, or do you think that sometime in the next month is sufficient? A month is a pretty long time, isn't it?

Ms. PAGE. That is exactly what many of the state officials have explained to DOE. Senator, you are raising a concern that many of the Governors feel, and the reason that we highlighted that area of the DOE discretion in making these judgments is that we had heard the concerns from the states. We felt perhaps Congress might want to reexamine the fact that DOE can exercise that kind of discretion.

Senator ADAMS. Let me give you an example out of your report, on pages 44 and 45, and I will read it to you so you don't have to look through it. It says—what they are discussing is the casks that they are going to put this nuclear waste in. I am using that because it happens to be something of which I have an interest in, but also it is highlighted in your report as being an example of something that happens in other areas.

It says, "DOE is also examining the possibility of employing very large capacity dual use casks. These offer an opportunity to minimize the number of shipments in the handling of spent fuel." That is nuclear fuel. "Once fuel has been removed from the reactor and placed in dry on-site storage in dual use casks, the handling and worker exposure would be reduced.

"However, the NRC specified test conditions for casks used for transportation are more stringent than for storage casks. Although they have pending certification, none has been certified for both purposes."

Then you arrive at this conclusion which really bothers me. "Moreover, questions will need to be asked about the effects of lengthy on-site storage on the casks' integrity, and during transportation, and on the effect of large heavy casks, of the stability of the carrying vehicle, whether truck or rail car. The weight would not be of concern if barge transportation were used, but the increased turn around time required for reuseable casks by slower barge traffic is an economic tradeoff that must be considered."

Do they ship in NRC certified casks, or don't they, out of DOE?

Ms. PAGE. All shipments of commercial spent fuel, that is fuel that comes from reactors, must be shipped in NRC certified casks. The description you were reading aloud was referring to casks that the NRC is considering certifying. Since that was written they have certified for storage only one of those dry storage casks. They have not certified it for transportation. That is a separate issue, Senator, and the NRC is continuing testing and considering that.

Senator ADAMS. On page 53 you have some recommendations, and it says, "While DOT and NRC both have regulatory rules and DOE is an operating agency, the policies and activities of all three agencies have a single impact on public perceptions."

Shouldn't we just put all of this under DOT and have them regulate them all at the same time, because if a propane truck hits a nuclear truck, isn't it just as bad that one has nuclear waste and one has propane as to whether they both had nuclear or they both had propane?

Ms. PAGE. I would certainly not want to be close by if that happened.

Senator ADAMS. I wouldn't either, and I wouldn't know what to do with it after it happened, and I wouldn't know it I were a secretary.

Ms. PAGE. DOT does not have the expertise to do the kind of certification activities of the casks that the NRC and DOE undertake. It would make—I would think it would be something Congress would want to consider as to whether they should bring about a closer alliance between those three agencies and inded make some kind of a single policy for all of those shipments.

It is a source of enormous confusion and frustration to the states as you well know, because there are a number of shipments that come through the State of Washington and there are separate kinds of standards for the shipments.

Senator ADAMS. My time has run out, but while the Senators are here would you lift up that map and would you show me and show the committee where these things are going to run on the highways from east to west? You commented on the Gulf and so on, but if you are going to take nuclear shipments, where are they going to go? We had a little discussion earlier about I-80 and I-70 and which was the best. Could you point those out for me so that I have an idea?

Ms. PAGE. This is I-70, and this is I-80. This is I-80, the northern most one.

Senator ADAMS. If we are going to go——

Ms. PAGE. May I make a comment?

Senator ADAMS. Please, go ahead. You tell me.

Ms. PAGE. The bulk of the shipments that I was referring to in the Gulf Coast area were the chemical and petro-chemical shipments. The shipment of radioactive materials are between two and three percent of the the total number of shipments, and the shipments of spent fuel are less than one percent. There is something like——

Senator ADAMS. You mention in here that if we start this thing, we've got about 225 to 250 of them a year?

Ms. PAGE. That is right.

Senator ADAMS. In other words, about one a day is going to go across there. I just want to know where it is going to.

Ms. PAGE. It depends on where it is going to. Most of the shipments that have occurred recently have been shipments from the West Valley site in New York to either Illinois, or to an additional storage site up in the Wisconsin area. So those shipments have gone over these interstates here.

Senator ADAMS. That is kind of from reactor to reactor.

Ms. PAGE. That's right.

Senator ADAMS. From one pool to another. Now if you are going to put this thing, or have a system out in the West, where do they go?

Ms. PAGE. We are talking about a repository now?

Senator ADAMS. Yes.

Ms. PAGE. The main east-west roads are indeed, as the two senators pointed out earlier, I-70 and I-80. In fact, those are the two routes that are traveled by the largest number of shipments now of the radioactive shipments. If you look at a map, these two interstates are fairly heavily traveled.

Senator ADAMS. Unless we change this law, there is no requirement for notification?

Ms. PAGE. Excuse me. For the commercial spent fuel, yes, there is a requirement for notification.

Senator ADAMS. What is that?

Ms. PAGE. For each shipment, the governor's office for the state must be notified within 24 hours of the time the shipment comes through. The reason that Senator Exon's governor in Nebraska was not notified in quite that way is those were Three Mile Island debris shipments. They were DOE shipments to a DOE site, and DOE did not consider that those were subject to the rules for commercial——

Senator EXON. But they were, weren't they?

Ms. PAGE. Not technically, although, this is a legal technicality. My own feeling is that it would have been a lot smarter for DOE to make the notification.

Senator EXON. It would be a lot smarter if we would make the law so clear that there isn't any discrepancy.

Ms. PAGE. I think that one of our policy options does suggest that.

Senator ADAMS. I have exhausted my time. Thank you.

Senator EXON. Senator Danforth.

Senator DANFORTH. Is it my understanding that another hearing is going to be held on the transportation of radioactive materials and nuclear wastes?

Senator EXON. We have two more hearings scheduled after this one, and we will hold additional ones if the subcommittee deems that necessary.

Senator DANFORTH. Well, this is obviously a matter that is very much of a hot button in a lot of people's minds. I suppose almost everyone in the Senate has received inquiries from constituents. I certainly have. I have gone to town meetings and have been asked about the Three Mile Island shipments across our state.

I also have been told that Ms. Page went out to Missouri, and drew a pretty good crowd.

Ms. PAGE. It was one of those meetings where feelings do run very high. He was in the suburbs of St. Louis where the Three Mile Island shipments go right through. I am sure you have been there too.

Senator DANFORTH. Yes I have. I was not at the meeting you attended. But my understanding is that you really did an excellent job. And that you won the respect of all kinds of people including people who are environmentally concerned and government people and private sector people.

And I want to thank you for what you have done to contribute to the understanding in our state, and, Mr. Chairman, express the hope that Ms. Page might be available throughout our deliberations on this matter. I think she is a real resource.

I have no questions.

Senator EXON. Thank you. I have a few questions and we will have a second round.

Looking into the future, I do not know whether you have had the time to look into the future or not. I was very much interested and surprised I say again at the mixture, the percentage of hazardous materials between our major forms of transportation.

Looking into the future, do you see anything that is very likely to change in those percentages of the various means of transportation? Or is your best guesstimate now that we are likely to remain in that general area of 60 percent of all hazardous materials moved by truck and the other 40 percent, next is on water and thirdly by rail?

Is that likely to remain about in those areas from what your studies have indicated?

Ms. PAGE. I would guess it would not change substantially, Senator. There is a continual jockeying back and forth between rail and truck, as you know. But gasoline shipments are almost always by truck——

Senator EXON. Because they want to get to a point.

Ms. PAGE. Exactly. The average trip is only 28 miles. So that is always going to be by truck, except for large pipeline deliveries. The average chemical trip is about 250 miles and frequently trucks are used because they want such quick turnaround with the changing business procedures, you know, just-in-time delivery.

Also there is a move to try to store less hazardous materials on a site, in other words to have the material provided at the time it is going to be used so that they do not have the storage problems. That all speaks to smaller deliveries by truck as well.

On the counterbalancing side you have the long haul movements on the special trains where they are loading perhaps truck trailers on flatcars. And you know they carry them the long distances that way. So there will be some balancing back and forth but I think that the proportions will not change substantially.

Senator EXON. Do you agree with that, Dr. Rothberg?

Dr. ROTHBERG. One additional thought is that the transportation patterns also have a lot to do with the U.S. economy and the world economy and these patterns are affected by the value of the dollar and that can dramatically impact the flow of hazardous materials. It changes over time in relationship to the value of the dollar.

Senator EXON. When we get into nuclear wastes, as one part of our overall problem, what is the percentage of nuclear wastes that are handled by these three major transportation facilities?

Ms. PAGE. It is all carried by either truck or rail. None is carried at this time by barge. There are shipments of industrial wastes, small shipments that are sometimes carried across the ocean by ship. But our domestic shipments are all carried by rail or truck.

Senator EXON. Is the split between rail and trucks even or is that——

Ms. PAGE. Most of it is carried by truck.

Senator EXON. Most of it is carried by truck.

Ms. PAGE. Yes. I am trying frantically to retrieve this from my brain and I am not doing too well. But I do know that there is one trucking company, Tri-State Motor Transport, which is headquartered in Missouri, and they carry by far the largest amount of radioactive wastes in the country of any carrier.

They are very good about it. They are a professional company that deliberately set out to capture this market.

Senator EXON. I may have another question or two but my time is up and it is your second round, Senator Adams.

Senator ADAMS. Dr. Rothberg, I wonder if you can give us some options for moving hazardous materials. I remember in the past there was an attempt to try to get more and more of them, both the location of the plants and the destinations on water or on dedicated rail.

I am very concerned when I hear the percentages that are carried by truck, simply because I think that highway transportation is becoming more hazardous.

Do you have some options and what is your opinion? I did not get a chance to ask you because I asked Ms. Page if having the Department of Transportation regulate under one roof all hazardous movements.

Dr. ROTHBERG. Well, let us speak about your special interest, and that is nuclear materials transportation.

Senator ADAMS. That is a good example to use. You can use another, but that is a good one. Let us use that.

Dr. ROTHBERG. There are lots of different types of radioactive materials. We have the low-level materials. We have the high-level, and we have transuranic materials. So there is a variety of materials, and you have to look at each specific material.

I think what the NRC does is quite different from what the DOT does in some cases. Let me explain what I mean. In general, the NRC looks at transportation as a component of the entire nuclear cycle and has a quality assurance program for its licensees.

The Transportation Department looks at the nuclear materials from a different perspective. They do not always have the same type of quality assurance program as NRC requires. So the point I am making is you have to look at which type of material you are talking about.

I think what you are addressing here is a concern of how do we make the NRC do a better job and how do we make the DOT do a better job. I think that is the fundamental issue, if I understand you correctly.

Senator ADAMS. I do not have any problem with taking an agency that has expertise like the NRC and having it in charge of developing the cask and of treating and working on the cycle.

What I am directing to you, like I did to Ms. Page, is the fact that when you get to transportation and it is on the highway it is not in the nuclear cycle. It is in the transportation cycle and it is out there with everything else.

I am concerned that their viewpoint is that you could drop these casks off big mountains, you can pound them with hammers, you can do a lot of things with them that they focus on as part of the nuclear cycle.

But if you are in transportation you are focusing on the fact of it is going down the highway and it is unstable and in front of it is a propane truck which has just been in a five car accident and there may be a chlorine truck nearby and it is just as Congressman Wirth testified about the torpedoes.

You have then an extraordinarily hot fire which can potentially melt zirconium and is outside of the nuclear cycle. And this is going down the highways, because I think we have established that this is significantly on the highways and regardless of anything above very low-level wastes, you have got another factor out there with the mixed hazardous material that has already exploded.

I want to know how the Committee approaches this. This is why I asked her the question and I am asking you the question of whether you do not put transportation in some form, both routing, emergency response, and notification under one area that is involved in transportation, while leaving the actual development of the casks or whatever they are with the expert people.

Then you can tell me whatever you want about how you load them and unload them. But I am concerned about the fact that I do not like the movement that we have got here. What we are talking about, and that is one of the things I am concerned about in the whole system, is that the movement is the farthest place you possibly can go in the United States.

So transportation becomes an enormous issue in this, simply because you have got everything moving from one coast to the other. And I am asking you, what do we legislate? What is your recommendation? Leave it under DOE, DOD, NRD and DOT? Or do something different?

Dr. ROTHBERG. It seems like a very reasonable and sensible and simple question. But the answer is very complex because of the multiplicity of existing laws that we now have and the multiplicity of the different types of materials that we have.

As I see the situation today, the DOT has the responsibility for ensuring the integrity of the trucks, driver training, and some aspects of routing.

Senator ADAMS. It does not have responsibility for routing in this situation, does it?

Dr. ROTHBERG. It has issued a regulatory docket HM-164, that pertains, among other things, to the routing of highway route controled materials. That regulation is in the Federal Code and has been challenged in the courts, all the way up to the Supreme Court and it is now in effect.

So I approach the safety problem in a little different manner. I am more concerned with ensuring that there are adequate numbers of DOT and NRC inspectors. That is my primary concern. And that violators of the regulations receive the full penalty of the law, rather than the jurisdictional question.

Senator ADAMS. Mine is not a jurisdictional question. Mine is a preventive question, rather than a final enforcement, though enforcement goes to prevention, it is the system. The routing, where you go and who is in charge. Thank you, Mr. Chairman.

Senator EXON. Thank you. Senator Kasten has been very patient. He has been here for most of the hearing but each time that I call on him he has had to step out to take a telephone call. Senator Kasten.

OPENING STATEMENT BY SENATOR KASTEN

Senator **Kasten**. Mr. Chairman, thank you and I have an opening statement.

I think this series of hearings on the transportation of hazardous materials is most important. Our society uses and necessarily transports vast quantities of hazardous materials of all types from petrochemicals, to insecticides and pesticides, to nuclear materials. This issue is of concern to our citizens, local and state authorities, and the Members of Congress.

We have addressed some matters such as drivers licenses for those carriers of these materials on our highways, some aspects of training and the rights of communities to know about hazardous shipments. I know that there is still a lot to be done before we can all feel that society is as well protected as it can be. I note from the testimony of Ms. Edith Page of the office of Technology Assessment that OTA estimates that perhaps 75 percent of those police, fire, or other emergency service personnel who arrive on the scene first in the case of an accident have not received any hazardous training or need specialized training.

This problem is a major concern to Wisconsin where we have only 34 full-time fire departments, the rest being volunteer fire departments. Despite the tremendous jobs these volunteers perform, they would be the first to admit the need for specific training in this area for the protection of their communities and their own personal safety. The need for special equipment is also a problem. Then we as always have to face the question of how the programs or equipment needed are best paid for.

Wisconsin personnel in charge of emergency response have done a fine job to this point, but recognize the necessity of establishing more uniform programs. This desire for uniformity has to be accomplished while providing for state authority to address the different situations and conditions which exist in our different constituencies.

Wisconsin has some 600 spills of hazardous materials each year with about 50 percent relating to the transportation of such materials. Other states have similar problems. Most of Wisconsin's spills are of petrochemicals, followed by insecticides and pesticides, Agents for processing, and lacquers and paints. Obviously this situation has to be managed in as proper a manner as we can. The transportation of hazardous materials has a low incidence of risk for the amount undertaken. But we must understand this area as best we can.

Therefore I look forward to the testimony of our witnesses today, Friday and on May 12. We all share the concern of the Chairman who is to be commended for calling these hearings.

Thank you, Mr. Chairman.

I understand you have had a discussion of the containers and the improvements that are being made and the confidence, at least some of the areas that you are expressing. So I am not going to go back and pick up that.

I am also interested in the question of funding. How much money is needed here? My understanding is that the two of you differ significantly and I guess I will just start with Ms. Page.

Estimates of funding to improve the emergency response capabilities of state and local governments now are ranging, as I understand it, from about $20 million to as much as $100 million. You claim that a total program costing $15 million to $25 million would be adequate, if I understand, Ms. Page?

Also, you suggest a Federal contribution of between $4 million and $7 million with the rest being made up in other ways. Why is there such a big difference between the estimates being made? Is it because people are determining that the problem is different in scope?

Or is the difference in the estimates of the money because the problem is recognized to cost a certain amount, but the Federal and state and local shares are different. Why do we see this big difference? I will ask Dr. Rothberg the same question.

Ms. PAGE. There is not complete agreement on what the appropriate levels of training are for the different levels of need. For example, citizens in an area where there is not a heavy degree of transportation need some first response training but they do not need the same kind that emergency response personnel in Houston would need.

There are different costs associated with the different levels of training. The higher the degree of sophistication of training, the greater the cost.

We know already that roughly $10 million to $12 million is spent annually by all levels of government on training for emergency response. So our estimate of a total of $15 million to $25 million annually was to train a certain percentage of each year's crop of emergency response personnel.

We have a table as attachment B to the prepared testimony that gives a sort of a sample program. It is based on an emergency response training program that I attended in Columbus, Nebraska, Senator Exon, which was for just exactly the kind of first response personnel that we have been talking about here who are not familiar with the unique dangers of transportation.

Because there is already a certain amount expended, OTA's feeling was that a relatively modest increase in the Federal contribution, which is where the $4 million to $7 million comes in, it would help us reach that $25 million total.

There is some disagreement, and I continue to hear this at the conferences or at the speaking that I do around the country, there is some disagreement on how great the Federal role should be in this. Many people say this is a local program, despite the fact that it is interstate commerce.

Other people say we are being exposed to risks that are beyond our control. This is transport going through our boundaries and we do not have anything to say about it. Both sides are right. There is no wrong in that case.

So our model, and the estimate of $15 million to $25 million, really was a minimum effort that would get at those people most in need. Those first responders who really have no other recourse. Who do not have the resources because it is a low priority in their city budgets and who just cry out for training and are likely to be injured because they do not know the special dangers.

Senator KASTEN. And in your view this would be $15 million to $25 million per year for basically an indefinite period of time as we continue to reach more and more people and to train people more.

Ms. PAGE. Absolutely.

Senator KASTEN. Dr. Rothberg, are you basically saying we have got to spend more money faster because we want to train people more quickly? Or do you look at the scope of the problem as being broader than Ms. Page does?

Dr. ROTHBERG. Broader. The differences between our two estimates pertain primarily to what is included. I included emergency response equipment. Their suits. Vans. The specialized equipment that is necessary to respond adequately to spills of hazardous materials. The OTA estimate did not include equipment.

Another difference is that the OTA report assumes existing resources are reorganized and tightly managed. I have not assumed that.

The bottom line is that no one knows the exact amount of money. The estimate, you can pick any number you want. I just tried to give a feeling for the range of estimates. There are two million emergency response people in the United States and you can pick the number and one must also address: "What is the definition of adequate?

There is a need and you might want to submit for the record as an additional piece of information the special report that the Environmental and Energy Study Conference did on this exact subject. It identifies a survey that some 14 Members of the House and Senate sent to their constituents to try to gain additional information on exactly what is the need.

Senator KASTEN. I would, Mr. Chairman, like to include that as part of the record of the hearing.[1]

We are going to have to come up with a number. And we do not want to begin this without at least having some kind of a definition of what the total problem is in terms of dollar terms. Then the next question will be how quickly we can reach the goal of having people trained.

Senator EXON. That is entirely in order.

Let me follow up if I might on the line of questioning from Senator Kasten. Each of you said in your prepared statements that you kind of emphasized training was critical. I think you both feel that way and you both indicated, at least one of you did, maybe you could get into that a little more in a question and answer session.

I guess for the record, and I am talking about the first response, which I think is a major problem for all of our cities, especially our smaller cities that have had little if any training, I suspect, in most of these things.

Are there manuals available? Is there a curriculum that has been established? Do we train a policeman or a fireman in these areas and then have them with the training that they receive tell their coworkers about this?

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[1] The study was not reproducible and is in the Committee files.

Is there protective gear that they should have? Are there instruments that should be available so that they can test the dangers and what it is they are dealing with? There are just hundreds of questions that come to my mind, all back in the area of first, for the protection of the individual that has the responsibility in town A or town B or town C, that is the first one in official capacity at the scene of a potential tragedy.

So my time will be used up by both of you giving me some help for the record on the general area, but this very specific area, of training. What are your recommendations and what are the answers to some of the questions that I shot at you?

Ms. PAGE. The news is not good, Senator. There are no nationally accepted standards for levels of training and one of the most frequently asked questions I hear as I went around trying to gather information, and indeed we helped put together the questions that were sent out by the Environmental and Energy Study Conference, was, how do we know what the appropriate type of training is?

Laboriously and on an individual basis, state fire marshalls offices, some state governments, some universities, all of them in separate places, have begun trying to set levels of training standards. Finally some attention has begun to be paid at the national level.

The National Response Team organized a committee last year that has begun to try to develop standards and the National Fire Protection Association, which is the industry standard-setting group for the firefighters, has formed a technical committee to establish standards for emergency response training.

This committee has had two meetings and they will eventually agree on standards. You know they use a consensus process. They will have national standards within a couple of years. So that problem is being addressed. It has been a hodge-podge up till now and there has been no guidance and that has been a real problem.

On equipment, the answer is more discouraging. The individual suits cost between $3,000 and $6,000. There is no single suit that is appropriate for every type of chemical emergency. This means that a group that wants to be adequately protected for all kinds of emergencies needs to have several different sets of suits.

Some of the suits, and I understand that EPA has recently come out with a suit that they say is just the right thing for chemical cleanup, however, it is basically a paper suit coated with teflon. In a high heat situation or with the wrong chemical substance it would just melt away. It would not be suitable.

It might well be suitable for cleanup at a site, you know, where there is no fire. But if there is a fire involved, you would have ashes.

There is research going on under the Coast Guard to try to find a single substance suit. But this is a very difficult thing to do because our chemicals are so varied. We are so creative.

Senator EXON. Thank you. Dr. Rothberg?

Dr. ROTHBERG. Last year FEMA and the Department of Transportation submitted a report entitled Hazardous Materials Training, Planning and Preparedness, at the request and direction of Congress.

This report did point out that there are approximately 412 emergency response training courses with 216 identified exclusively as response courses. So in answer to your question, yes, there are an array of courses and some are very specific and detailed and sophisticated. Some are very general.

But the key point is, where is the money in the Federal budget, or should there be money in the Federal budget, to better train the State and local people to get to these courses or to have the courses come to them.

It is not a question of are there adequate courses. But the question is, who pays?

Senator Exon. Thank you very much. We have appreciated very much your extremely interesting and helpful testimony. Undoubtedly we might ask you to come back once again.

Our last witness today is Mr. Albert B. Rosenbaum who is here on behalf of the Hazardous Materials Advisory Council of Washington, DC.

Mr. Rosenbaum, thank you very much, and would you please come forward.

STATEMENT OF ALBERT B. ROSENBAUM III, HAZARDOUS MATERIALS ADVISORY COUNCIL, ACCOMPANIED BY PAUL RANKIN, MANAGING DIRECTOR

Mr. Rosenbaum. Thank you. On my left is Paul Rankin. Paul is the Managing Director of the Hazardous Materials Advisory Council, and I am currently its Chairman.

HMAC is the only national organization devoted to promoting safety in domestic and international movement of hazardous materials. It represents all modes of transporation, shippers, and container manufacturers.

HMAC is pleased to have the opportunity today to discuss some of the prominent issues that are likely to be raised in this and future hearings on the Act. Perhaps the most vexing and complex of the HMTA issues is that of regulatory uniformity. Simply put, how much and what kind of regulatory authority should be reserved exclusive to the Federal Government in this field, and how much should be left to the 50 states and the nation's 130,000 communities?

Coordination of regulatory activities is necessary, both to provide protection to the public, and to insure the free movement of these vital commodities.

The Act provides the Secretary with broad authority to regulate all modes of transportation involved in interstate and intrastate commerce. The existing federal system covers a wide range of technical matters. These standards have been adopted by some 44 states. However, great variation remains because over the years some cities have adopted their own rules to control hazardous material movements. These jurisdictions reason that such actions are necessary because their rules address issues untouched or inadequately covered by the federal standards. Often these rules were created with little or no knowledge of the federal regulatory system.

This segmented system has proven burdensome and overly complex. Today's shippers and transporters face a nearly incomprehensible patchwork of laws and regulations. In many cases these activities have resulted in a negative safety impact on the communities they are designed to protect.

Congress should clearly articulate the primary regulatory role of the Federal Government in the areas of packaging, container specification and classification, inspection, placarding and marking, operator qualification and routing. We believe that the state and local governments should have the primary responsibility for the consistent enforcement of federally established regulations utilizing nationally recognized and uniform procedures. State and local regulations should only be promulgated in areas where an essentially local, unique safety concern exists.

We suggest that changes be made to strengthen the existing process by which non-federal regulations are reviewed for consistency with the Act. The Secretary is currently authorized to preempt those rules which are found inconsistent. However, the process for obtaining such a ruling has not proved satisfactory to government, industry, or the public. DOT inconsistency rulings are not delivered promptly and are considered advisory opinions not binding by the courts.

We suggest that this process be clarified and strengthened so that DOT will be able to take a more positive role in this area.

The routing of hazardous materials illustrates the difficulties inherent in the establishment of an exact delineation between federal and local regulation. State and local governments have at times used this regulatory power indiscriminately, often for non-safety related purposes, and with no thought as to the real consequences of their actions.

Many routing actions simply transfer the risk from one jurisdiction to another. These kind of actions do nothing to really improve safety, and occasionally even serve to increase the hazard.

HMAC favors the establishment of strict federal performance standards that govern actions of this type by the states and localities who chose to develop their own routing schemes. When these schemes are developed, all affected parties should be consulted.

This type of strong federally led policy would ensure that routing decisions in fact promote safety and are arrived at in a fair, uniform, and consistent manner.

Industry, government, and public interest organizations have wrestled with the issue of emergency response funding for many years. At the core of the controversy are two questions; too what extent should the Federal Government subsidize or augment existing state or local emergency response activities? And if needed, how should the money be equitably raised?

HMAC is of the opinion that the needs of state and local emergency responders have never been accurately or adequately accessed. We urge that a study be undertaken which balances the existing level spending on emergency preparedness programs with the real additional needs of the emergency response community.

If after a study has been completed a need is determined for a federal emergency response fund, we would support it if certain preconditions are met. First and most important, state and local jurisdictions should be preempted from imposing additional fees on industry, and hazardous materials regulations and their enforcement must be uniform nationally.

In conclusion, the transportation of hazardous materials is a fact of our modern life. Products ranging from gasoline to pharmaceuticals must be moved daily. In the large majority of these cases they are being handled safely. HMAC recognizes and understands that the states and local communities have real interests in these activities. We believe, however, that a national uniform system of regulation must be established and maintained if the public is to be well and safely served.

The DOT should be provided with all the legal tools necessary to build upon its existing regulatory programs and initiatives. In this way scarce state and local resources will be freed for more productive uses in the area of enforcement and emergency response.

The Hazardous Materials Transportation Act has provided the basis for the development of many important and successful programs that have contributed to transportation safety. With some modifications it will serve to open the way for the establishment of new initiatives that further enhance the public safety and reliability of this type of transportation.

I thank you for the opportunity to be here today. I stand ready to answer your questions.

Senator **Exon**. Thank you very much. Senator Adams.

Senator **Adams**. I have no questions.

Senator **Exon**. I just have a question or two and then we may have some additional questions that we might direct to you to answer for the record.

Do you generally share the concerns expressed by the previous witnesses with regard to the lack of coordination among federal, state and local governments and that we do have a serious problem out here that has not been as yet adequately addressed?

Mr. **Rosenbaum**. Well, I think the last witnesses centered their discussion mostly on the nuclear issue and there are certainly a number of different federal and state organizations that are involved in that issue. It is a little more complex than those associated with general hazardous material—the transportation of flammable liquids, combustible liquids, and so on.

Our concern as far as the complexity and non-uniformity of regulations really has more to do with the federal DOT taking a lead role in establishing the procedures and the regulations that the states and municipalities can adhere to so they can then concentrate their resources in the more productive, at least we believe, areas of enforcement.

Senator **Exon**. How are the rules and regulations that are presently codified generally communicated, and how well are they enforced by local jurisdictions?

Mr. **Rosenbaum**. They are presently codified in Title 49, CFR, and they are distributed through the Federal Register of course, and through the states that have adopted the federal rules—I think I stated 44 states have adopted the federal hazardous materials regulations.

As far as enforcement, five or six years ago enforcement was lax. It is getting better with the Federal Motor Carrier Safety Assistance Program, with the SHMED Program and COMED Program that the RSPA is now operating. They are bringing police officers and special enforcement people into the federal system so they can enforce the federal regulations throughout the states. Many of these people are going to the Transportation Safety Institute in Oklahoma City. The Institute is training a large number of people all the time.

Senator EXON. Mr. Rosenbaum, one of the customary complaints and concerns we hear about a great deal has to do with placarding on hazardous material and waste.

What, if any, recommendation does your Council have in this regard? Do you think we should be doing more of this, or do you think that we have adequate requirements in this area as of now?

Mr. ROSENBAUM. The present marketing and placarding regulations we believe are adequate. One change that we requested from DOT was just approved in the Federal Register yesterday. That was the strengthening in the plastic coating of the placard so they would be water-proof and be more durable in transportation. We asked for that and DOT responded, and we are pleased that they have. We think that these changes will go a long way towards improving the reliability of the hazard information system.

As far as improving or changing the placarding system, you should understand that we must work with and train people—emergency responders, firemen, policemen, motor carriers, rail workers—to deal with a system that can be very complex. The hard part is to set up a consistent, uniform training system that takes a lot of the guesswork out of responding to an emergency—to a degree you have to keep it simple.

We believe the present system is adequate, the different classifications and the hazard information system tied to the DOT emergency response guide provides an excellent framework for these people to be trained and respond adequately and safely to emergency response situations.

Senator EXON. Mr. Rosenbaum, thank you very much. I have no further questions. Anything more, Senator Adams?

Senator ADAMS. I just have one on this placarding which I would like to have and I will submit a further written question, Mr. Chairman, so as not to take a lot of time, but I want to call your attention to it so you can start preparation.

On page 10 of the Office of Technology Assessment Report it indicates that, for example, the first safety person on the scene of an accident is likely to be one of the nation's one million largely untrained volunteer firefighters and may be confronted with a placard derailed railroad tank car spewing a mysterious cloud that burns his eyes.

It goes on to make some comments, but here is the thing I would like to have you tell me whether this is right or not and you can do it in writing after you've looked it up.

Quote, "He also will not know that the state enforcement records show that between 25 percent and 50 percent of the trucks are incorrectly placarded," which you just referred to, "so if he must respond to a truck accident, accurate identification of the substance involved may be difficult and time consuming."

Now this was a problem that existed in the past and I don't know what its present circumstance is, but the response of local untrained personnel to a hazardous chemical, or a hazardous substance in a highway accident is to me one of the most dangerous parts of this whole operation. I would like your responses to how well that is covered.

I can remember, Mr. Chairman, for example, where we had a railroad cooking filled with propane and the deputy sheriff drew a line around it on the outside, and the deputy sheriff, during the course of the night, smoking cigarettes and threw a match over his shoulder and we wiped out a town in Tennessee.

Mr. ROSENBAUM. Waverly.

Senator ADAMS. That is exactly right. That led to a lot of the things you have done. I just would like very much if you could update the committee on the placarding situation and the response number. I want to know whether there is a DOT response number, or a central response number, in addition to the Chemical Association where the local sheriff or person can call, ask what the placard means and get a response. Thank you, Mr. Chairman.

[The statement follows:]

Statement of the

Hazardous Materials Advisory Council

Mr. Chairman, my name is Albert B. Rosenbaum, III, and I am here today representing the Hazardous Materials Advisory Council. I presently serve as Chairman of the organization.

HMAC's membership consists of corporations, firms and associations that are involved in the shipment and transportation of hazardous materials, substances and wastes. It is the only national organization devoted to promoting safety in the domestic and international movement of hazardous materials which represents all modes of transportation, shippers, container manufacturers, reconditioners, emergency response and waste clean-up companies, as well as carrier and shipper associations.

Preliminary Statement

HMAC is pleased to have the opportunity today to discuss some of the prominent issues that are likely to be raised in this and future hearings on the Hazardous Materials Transportation Act. Our testimony will focus on five major subject areas that directly affect hazardous materials transportation safety and, as such, deserve special attention by this subcommittee.

Additionally, we will describe briefly the genesis and activities of the "Hazardous Materials Transportation Coalition". In 1982 and 1983 a number of organizations representing the transportation and manufacturing industries as well as state and local governments came together in an effort to cooperatively develop solutions to some of the problems that had affected the groups in the past. The coalition's efforts provided the first step in developing joint initiatives on many hazardous materials transportation issues we are discussing today.

Issues

It has been more than a decade since enactment of the Hazardous Materials Transportation Act (HMTA). Since that time the law has been reauthorized twice without change. The hazardous materials transportation industry, federal, state and local governments and, of course, the public have had ample opportunity to consider and evaluate HMTA's performance. It can be fairly said, we believe, that HMTA has contributed much to safety in the field of hazardous materials transportation. It has provided a foundation for a coordinated regulatory program for hazardous materials transportation, and established the basis for a system to protect citizens and the environment from risks inherent in the transportation of these products. However, the development of this system has not been easy and some changes must be made if the law is to continue to serve its original purpose.

A. Uniform Regulations

Perhaps the most vexing and complex issue is that of regulatory uniformity. Simply put, how much and what kind of regulatory authority should be reserved exclusively to the federal government in the field of hazardous materials transportation and how much should be left to the 50 states and the nation's 130,000 communities? Coordination of regulatory activities in this system is vital both to provide needed protection to the public and ensure free movement of vital commodities.

The Hazardous Materials Transportation Act provides to the Secretary of Transportation broad authority to regulate all modes of transportation involved in both interstate and intrastate commerce. The existing federal system of regulation extensively covers a range of highly "technical" matters such as classification of materials, container and packaging specifications, placarding, marking, labeling and emergency response.

The federal standards have been adopted by some 44 states at last count. However, there remains great variation in regulations because, over a period of years, some states and cities have elected to adopt their own rules controlling hazardous materials movements. These jurisdictions reasoned that such actions were necessary because their rules addressed issues untouched or inadequately covered by the federal standards. Examples include special hazardous materials vehicle inspections, curfews, routing, prenotification, and novel communication requirements. Often, these rules were created with little or no knowledge of the federal regulatory system.

This segmented system has proven itself burdensome and overly complex. State and local responses to real or perceived problems have been fragmented, uncoordinated and inconsistent.
As a consequence, today's interstate transporters of hazardous materials face a nearly incomprehensible patchwork of laws and regulations. In many cases these activities have resulted in a negative safety impact on the communities they are designed to protect.

HMAC suggests that Congress clearly articulate in HMTA the primary regulatory role of the federal government, particularly in the areas of packaging and container classification, inspections, placarding and marking, driver qualifications and routing. In an effort to achieve a nationally uniform regulatory scheme the federal government should promulgate hazardous materials transportation regulations only after taking into consideration the input of all affected parties.

Historically and statutorily, the rail, air and water modes have enjoyed greater federal preemption than the highway carriers. HMAC believes that the hazardous materials regulations and related enforcement applicable to those industries should remain in the exclusive hands of the DOT. With respect to the trucking industry, HMAC believes that state and local governments should have the primary responsibility for the consistent enforcement of federally established hazardous materials transportation regulations, utilizing nationally uniform procedures, promulgated at the federal level. State and local regulations applicable to the trucking industry should only be promulgated in the areas where states and localities have an essentially local, unique safety concern avoiding an undue burden to interstate commerce, and where prior approval has been secured from the DOT after notice and opportunity for hearing.

Lastly, HMAC suggests that changes be made to strengthen the existing process by which state and local laws and regulations are reviewed for "consistency" with HMTA. Currently, state and local laws and regulations that are believed to be inconsistent with HMTA are subject to review by the Secretary of Transportation. The Secretary is authorized to preempt those which are found to be inconsistent. However, the process for obtaining such a ruling has not proved satisfactory to government, industry or the public.

HMAC's primary objection to the existing process is that DOT inconsistency rulings are not delivered promptly and are considered advisory opinions not binding on the courts. As a consequence, many inconsistency issues are finally settled by a state or federal judge. This practice, for obvious reasons, has yielded widely diverging interpretations of the law and has tended to feed rather than restrict the development of conflicting state and local hazardous materials transportation standards. It has also created serious burdens on industry in its good faith efforts to remain in compliance.

We suggest that the "inconsistency" process be strengthened by limiting judicial authority to overturn DOT inconsistency rulings unless the rulings are found to be arbitrary and capricious. This change will reduce the time and expense associated with determining the lawfulness of state and local restrictions. Ultimately, this will benefit everyone involved.

B. Highway Routing

Routing of hazardous materials is a complex issue. It illustrates the difficulties inherent in establishing an exact delineation between federal, state and local regulation of hazardous materials transportation.

Industry recognizes that state and local governments are responsible for the health and welfare of their constituents. As such, when a government identifies a legitimate public safety threat we understand that it must act to abate the problem.

However, with regard to routing, state and local governments have, at times, used their regulatory power indiscriminately -- often for non-safety related purposes and with no thought as to the economic consequences of their actions. For example, we are aware of several instances in which a state or local government passed a law prohibiting the movement of hazardous materials within a specified jurisdiction. Routing actions like these simply transfer the traffic from one jurisdiction to another. Clearly, these kinds of actions do nothing to promote safety, and occasionally they even serve to increase the potential hazard. When transporters are required to stop until a curfew is over, it creates a log jam of hazardous materials vehicles in one location. Or, when a city diverts traffic it goes into suburbs with poorer roads and less sophisticated emergency response resources.

To help remedy this problem, HMAC favors the establishment of strict federal performance standards that govern the actions of state and local governments who choose to develop routing schemes. We feel that routing schemes, where necessary, should be developed with the consultation of all affected parties, including state and local enforcement and response agencies, shippers and carriers. Additionally, the establishment of a strong federal policy advising state and local governments on exercising this authority, such as that developed for the interstate movement of radioactive materials, would ensure that state and local routing decisions in fact promote safety and are arrived at in a fair, uniform and consistent fashion.

C. Prenotification

In various parts of the country local governments have required that hazardous materials transporters provide them notice of impending movements. The jurisdictions justify these regulations by claiming that such notice improves emergency response capability and, by strengthening the local data base, long-range planning activities.

Transporters, however, argue that prenotification requirements do not enhance safety, can impose substantial burdens on commerce, and will overwhelm local agencies with mountains of near-meaningless data.

HMAC supports the general industry view that prenotification is unnecessary. We believe that a responsible alternative would be for state, regional or local agencies to consult regularly and closely with local industries to determine the kind of materials which pass through their area, the routes used, and the frequency of shipment. Once gathered, this data will provide emergency responders with more than sufficient information from which to develop practical emergency response programs.

An excellent mechanism to develop commodity data while avoiding the need for prenotification now exists. Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) mandates the establishment of state emergency response commissions and local planning committees. They must identify, among other things, area facilities in which extremely hazardous substances are produced or used and the routes that are used to transport those materials.

D. Registration and Permitting

Regulatory authorities have a need for information about those businesses that comprise the hazardous materials transportation industry. Exactly how much and what kind of information is needed, however, is in dispute, as is the method by which such information should be gathered. One concept that is frequently suggested is a registration plan.

The U. S. DOT currently has statutory authority under HMTA to establish a registration system (49 USC 1805) but has not yet done so citing cost as a primary concern. It now appears, however, that the Department plans to fund a pilot study of a limited hazardous materials registration program in FY1988. HMAC looks with favor upon this action in hopes that it will enable DOT to fully assess, for the first time, its costs and potential benefits.

State and local governments have tended to consider their own registration/permitting programs involving hazardous materials shippers, transporters and manufacturers as a combined safeguard on the movement of hazardous materials and a source of additional funds.

HMAC does not share this view. Permitting programs often do little to actually enhance safety, require large and complicated bureaucracies to approve a transporter's "fitness" and can become a substitute for rigorous and strict enforcement of existing hazardous materials regulations.

As to the argument that permit fees provide a needed funding source for state and local enforcement programs, it should be noted that current federal programs presently provide a substantial source of funding for state enforcement of DOT hazardous material regulations. HMAC supports this activity and firmly believes that strict and rigorous enforcement is the real answer to most hazardous materials safety problems.

E. Funding and Emergency Response

Industry, government and public interest organizations have wrestled with the issue of federal funding of state and local emergency response activities for many years. At the core of the controversy are two questions: to what extent should the federal government subsidize or augment existing state and local emergency response activities? And, if needed, how should the money be equitably raised?

There exists today a large number of highly trained emergency responders that are qualified to handle releases of hazardous materials. Industry and government presently provide considerable sums of money to these groups for training and the purchase of necessary equipment. HMAC is of the opinion that the capabilities and needs of these state and local emergency responders have never been adequately assessed or understood. We therefore urge that a study be undertaken which balances the current level of resources and the real needs of the emergency response community.

If, after a study has been completed which includes an accurate assessment of existing government and emergency response capabilities, a need is determined for a federal emergency response fund, HMAC would support it if certain preconditions were met. State and local jurisdictions should be preempted from imposing fees on industry for the transportation of hazardous materials, and hazardous materials regulations must be uniform nationally.

F. Good Samaritan

Finally, HMAC would like to draw the subcommittee's attention to an ongoing industry effort, spearheaded by HMAC, to enact in every state a law providing liability protection for those persons who, while not responsible for the incident, voluntarily respond to hazardous materials emergencies. By shielding from liability those persons and companies who might voluntarily offer assistance, these "Good Samaritan" laws encourage the quickest possible action to protect the public and the environment.

Already, 43 states have adopted Good Samaritan laws for emergency response. We, along with others in industry, are working to improve this record.

Hazardous Materials Transportation Coalition

In 1981, the Senate Commerce, Science and Transportation Committee held a series of hearings on HMTA to consider, among other things, the concept of a broad federal preemption of state and local powers to regulate the movement of hazardous materials. At the same time, DOT was working aggressively to promote uniform national standards and greater involvement in enforcement activities by state and local governments.

Neither of those efforts produced concrete results -- HMTA was reauthorized in its original form and DOT's efforts to expand the role of state and local governments were frustrated by budgetary concerns.

By late 1981, relations between the hazardous materials transportation industry and state and local governments had been strained to the point where virtually all productive communication between the two groups had ceased.

It was this standoff that spawned the coalition. We were well aware that the confrontational situation was unlikely to change unless positive action was taken. And, in fact, both industry and state government representatives shared a number of ideas and goals with regard to improving both the law and the regulatory system.

The first meeting of the coalition was held in January 1982 with 18 organizations on hand representing industry as well as state and local government. Meetings were held monthly using as a basic policy foundation two general statements. First, all agreed that greater regulatory uniformity would enhance the efficiency and usefulness of the system. Second, users, that is industry, should play a role in assuring a much better state and local capability in enforcement and emergency response.

The first substantive agreement and action of some members of the coalition was to preserve the existing federal role. In response to a severe budgetary reduction requested by OMB of the Research and Special Programs Administration in FY 1983, the coalition met with former Transportation Secretary Lewis to seek a reversal of the proposed reductions in RSPA. Partially as a result of this effort the OMB position was overruled and funding was restored.

In September, 1982 eight coalition members (the Hazardous Materials Advisory Council, National Conference of State Legislatures, National Association of Counties, National Governors' Association, National Association of Towns and Townships, National League of Cities, U.S. Conference of Mayors) and the Department of Transportation sponsored the first of four regional conferences to address the problems confronting the hazardous materials transportation system. Several hundred state, local and federal government officials and scores of industry representatives participated in these conferences. They shared ideas and developed new concepts and perspectives on a number of issues.

With the reauthorization of HMTA in 1983 the coalition disbanded. However the concept of cooperative effort remains intact. In fact, as a result of renewed Congressional interest in HMTA, the Hazardous Materials Advisory Council has invited many former coalition participants to discuss the possibility of renewing joint efforts to develop responsible, realistic and workable solutions to problems associated with hazardous materials transportation. Preliminary indications are that most of the organizations that participated in 1982 and 1983 are ready and willing to get back to work.

Conclusion

The transportation of hazardous materials is a fact of our modern life. Products ranging from gasoline to pharmaceuticals must be moved daily and, in the large majority of cases, are being handled safely.

We recognize and understand that states and local communities have real interests in these activities. We believe, however, that a national uniform system of regulation must be established and maintained if the public is to be well and safely served.

The U. S. Department of Transportation should be provided with all the legal tools necessary to build upon its already excellent regulatory programs and initiatives. In this way, state and local resources will be freed for productive use in the areas of enforcement and emergency response.

The Hazardous Materials Transportation Act has served its purpose well. It has provided the basis for the development of many important and successful programs that have contributed to the safe transport of hazardous materials. With some modifications, HMTA will serve to open the way for the establishment of new initiatives that further enhance public safety while creating greater efficiencies in the field of hazardous materials transportation.

Thank you for this opportunity to testify on the Hazardous Materials Transportation Act. I will be pleased to answer any questions.

Senator EXON. Thank you, Senator, and thank you, gentlemen. We appreciate very much your coming and we appreciate your help.

The subcommittee is adjourned.

[Whereupon, at 3:50 o'clock p.m., the meeting was concluded.]

[The following information was subsequently received for the record:]

Senator Brock Adams
SH-513 Hart Senate Office Building
Washington, D. C. 20510-4703

Dear Senator Adams:

On April 22, during my testimony on behalf of the Hazardous Materials Advisory Council on the reauthorization of the Hazardous Materials Transportation Act (HMTA), you asked for further information on incorrect placarding of hazardous material laden trucks.

You referenced the figure of 34% to 55% incorrect placarding of these vehicles cited in the Office of Technology Assessment's report on the "Transportation of Hazardous Material."

After considerable research, I discovered that this figure originated in a study conducted by the Virginia Polytechnic Institute's Dennis Price, William Schmidt and Richard Kates, titled "Multi Modal Hazardous Materials Transportation in Virginia". The study was conducted in 1977 and 1978.

Frankly, I believe the 34% to 55% figure developed in the study to be overstated and certainly not typical of more recent operations.

I base this opinion on several things:

1) In 1977 and 1978, the U. S. Department of Transportation was in the process of implementing a major change in the placarding/Hazard Information System - HM 103/112 - so some confusion probably existed on the part of the carriers and the researchers as to what exactly was in compliance;

2) The study was conducted by graduate students after minimal training in the regulatory requirements. The compliance requirements for such commonly transported commodities such as gasoline and fuel oil can be confusing;

3) A violation was recorded if only one of the four required placards was missing. Recent changes in placard construction will eliminate many of the disappearing placards that have plagued the industry;

4) Many of the inspections were conducted on intrastate as opposed to interstate vehicles. At the time, I recall, there was some question as to the applicability of the U. S. Department of Transportation requirements to intrastate shipments (This matter has since been clarified.);

5) In reviewing the study, I noticed several questionable figures. I have enclosed Table 5, page 17, which indicates that at five inspections every truck carrying hazardous materials had a placard violation, and at eight inspections more trucks had placard violations than were inspected. The same sort of incongruent data exists in Table 22, page 49 (attached). It was from these two Tables that Table 13 ("Statewide Summary of 1978 Truck Survey Results") was developed and hence the "34% in 1977 to 55% in 1978" placard violations statistic. I discussed this Table with Dr. Price, one of the authors, and found that he could not explain the situation. Moreover, the records of the study have been destroyed; and

6) With respect to the actual danger posed by placarding non-compliance, one should be aware that placard violations exist where a truck has a placard but no hazardous material on board - a violation but not a danger - and where one of four placards is missing. In the latter case, the hazard notice communication is still present and obvious, even though a violation exists.

In conclusion, HMAC believes that the "34% to 55%" statement referred to in the OTA report is flawed and certainly not typical of truck placarding compliance in 1987. We would appreciate your making this response a part of the official hearing record, if possible.

Sincerely,

Albert B. Rosenbaum III

Albert B. Rosenbaum, III
Past Chairman, HMAC

Table 5

Number of Sections of Interstate and Major Primary Highway in Virginia for which Sufficient Data were available to Calculate Reliable Estimates of Daily Hazardous Materials Flow Characteristics

Route Number	Total Number Sections	Number Sections for Which Sufficient Survey Data were Available for Reliable Estimation				
		Trucks Carrying H.M./Day (A)	Tons of H.M./Day (B)	Truck Requiring Placards/Day (C)	Trucks with Placard Violations/Day (D)	Trucks Carrying H.M. but NO Freight Bill/Day (E)
29	78	52	52	53	52	38
58	90	33	33	39	45	35
64	66	63	63	63	63	38
66	11	8	8	8	9	7
77	7	7	7	7	7	7
81	67	67	67	67	67	67
85	13	13	13	13	13	13
95	37	37	37	37	37	31
220	42	21	21	28	28	19
360	48	20	20	22	21	7
460	93	57	57	49	65	42
495	11	11	11	11	11	9
581	5	5	5	5	5	5

Table 22

Number of Sections of Interstate and Major Primary Highways in Virginia for which Sufficient Data were available to Calculate Reliable Estimates of Daily Hazardous Materials Flow Characteristics (1978)

Route Number	Total Number Sections	Number Sections for Which Sufficient Survey Data were Available for Reliable Estimation				
		Trucks Carrying H.M./Day (A)	Tons of H.M./Day (B)	Trucks Requiring Placards/Day (C)	Trucks with Placard Violations/Day (D)	Trucks Carrying H.M. but No Freight Bill/Day (E)
29	78	21	21	21	21	0
58	90	7	7	7	6	6
64	66	49	49	49	54	26
66	11	6	6	6	7	0
77	7	7	7	1	7	0
81	67	67	67	67	67	67
85	13	13	13	13	13	0
95	37	37	37	37	37	2
220	42	20	20	20	7	7
495	11	11	11	11	11	0
581	5	5	5	5	5	5

Table 13

Statewide Summary of 1978 Truck Survey Results.

All counts represent the number of trucks surveyed in each category.

(1977 results in parentheses)

Category	Carrier Type					
	Common	Independent	Company	Personal	Unknown	Total
Trucks	1722 (537)	929 (913)	2139 (2303)	72 (94)	0 (605)	4862 (4452)
Trucks with hazardous materials	151 (95)	44 (111)	155 (310)	1 (7)	0 (71)	351 (594)
Trucks requiring placards	131 (56)	44 (83)	146 (231)	1 (4)	0 (55)	322 (429)
Trucks without freight bills	384 (54)	329 (292)	984 (1100)	57 (74)	0 (57)	1754 (1577)
Trucks with hazardous materials and without freight bill	8 (3)	3 (23)	21 (99)	1 (2)	0 (10)	33 (137)
Trucks with placard violations	80 (34)	27 (35)	84 (109)	1 (2)	0 (22)	192 (202)
I. Violations by trucks with hazardous materials requiring placards	45	18	47	1	0	111
II. Violations by trucks with hazardous materials not requiring placards	1	0	1	0	0	2
III Violations by trucks not carrying hazardous materials	34	9	36	0	0	79

HAZARDOUS MATERIALS TRANSPORTATION

FRIDAY, APRIL 24, 1987

U.S. Senate,
Committee on Commerce, Science, and Transportation,
Subcommittee on Surface Transportation,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:38 a.m. in room SR-253, Russell Senate Office Building, Hon. J. James Exon (Chairman of the Subcommittee) presiding.

OPENING STATEMENT BY SENATOR EXON

Senator Exon. The Subcommittee will come to order. This morning the Surface Transportation Subcommittee begins its second of three scheduled hearings on the reauthorization of the Hazardous Materials Transportation Act. While most of you have received an overview of the Act, today we will be hearing from the Research and Special Program Administrator about the Department of Transportation's implementation of the Federal program. We will also be hearing from the panels representing local governments and hazardous materials shippers and carriers.

On May 12 we will hold a third hearing in which the transportation of radioactive materials can be specifically considered.

Our hearing on Wednesday was a good one. I feel it helped us further identify so many important issues regarding the transportation of hazardous materials which the Committee needs to consider. These include training, regulatory consistency, the availability of data and a number of issues surrounding the movement of nuclear material.

The testimony of the witnesses scheduled to testify today should be a significant addition to the record we have begun to assemble on this issue.

I certainly will recognize my colleagues as they come in for any opening comments that they might have, but I would like at this time to call on Administrator Douglass. If you will come forward now, Ms. Douglass.

I cannot tell you how pleased we are to have you here this morning to help us out on our deliberations on this most important matter that has come before the Subcommittee and will eventually come before the full Committee.

We will be glad to accept as a part of the record without objection any prepared statement that you have to make, and at this time I would recognize you for any presentation which you feel is in order.

STATEMENT OF M. CYNTHIA DOUGLASS, ADMINISTRATOR, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION; ACCOMPANIED BY ALAN I. ROBERTS, DIRECTOR, OFFICE OF HAZARDOUS MATERIALS; AND GEORGE W. TENLEY, JR., CHIEF COUNSEL, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

Ms. DOUGLASS. Thank you very much, Senator. I appreciate the opportunity to appear before the Senate Commerce Committee regarding the Department of Transportation's hazardous materials program.

I have accompanying me two of my colleagues. On my right is Al Roberts. Al is the Director of the Office of Hazardous Material Transportation; and to my left is George Tenley. George is the Chief Counsel of the Research and Special Programs Administration.

The Hazarous Materials Transportation Act of 1974 has essentially operated for over 10 years without any major amendments. The Act has generally worked well, but I believe it is time to consider some important changes to assure that the program is meeting the Federal/State goals in as practical a way as possible.

Toward this end, we will soon propose legislation we believe necessary and beneficial. Today, however, I would like to address our budget request for Fiscal Year 1988 and discuss a number of new initiatives we have started in the last few years. Those initiatives are not dependent on legislative change but are dependent on adequate budget and staffing. A detailed description of our budget request for Fiscal Year 1988 has been submitted for the record and is explained in some detail in our written testimony which has been submitted for the record.

Last year RSPA asked for and received both a dollar increase and a staffing increase. This year we are again asking for a budget and staffing increase. This year's budget request is for $8.7 million, an increase of $1.5 million over last year's budget. We are requesting an increase of seven staff.

Much of the increase is necessary to address concerns raised in several recent reviews of our program. These include the Secretary's Safety Task Force Report, the Office of Technology Assessment Report, RSPA's National Hazardous Materials Transportation Advisory Committee Report, and Congresswoman Cardiss Collins' Report on training.

RSPA participated to a great extent in all of the studies. In short, we agree with the gist of the recommendations. The highlighted areas of concern in those reports are issuance of the performance-oriented standards; application of the hazardous materials rules to intrastate motor carriers; driver and handler training; an approved data base; better coordination between the Federal agencies and also the states; roles for emergency response planning and training; routing of hazardous materials; and the multiplicity of State and local laws for hazardous materials transportation.

We have been working to address these problems. The problems are complex and often expensive to address, but we do believe they are important.

I would like to briefly address each area and highlight RSPA's initiatives.

First is the need for issuance of performance-oriented standards for small packages. A notice of proposed rulemaking has been completed and will be published in the Federal Register next week.

Second is the application of the hazardous materials regulations to intrastate motor carriers. An advance notice of proposed rulemaking has been prepared and will be published in May.

Item three relates to the need for a regulation requiring training for drivers and handlers of hazardous materials. We have a rulemaking under way. RSPA is working with the Federal Highway Administration to develop a notice of proposed rulemaking requiring one driver's license and special testing for commercial motor vehicle drivers. That notice of proposed rulemaking will be published this summer.

RSPA is also developing an advance notice of proposed rulemaking to establish training requirements for persons involved in the transportation of hazardous materials. The ANPRM is to be published this spring.

Item four relates to the need for an improved data base. RSPA has contracted with the Transportation System Center in Cambridge, Massachusetts to comprehensibly review our data collection and make recommendations as to whether more data is needed, the cost benefits of a range of data collection options, and recommendations on how we could make better use of our data. That study will be completed in early 1988.

Based on our own review and on recommendations made in reports, RSPA is requesting $1.5 million to carry out our data collection responsibility. This is $600,000 more than requested in Fiscal Year 1987. In addition, we are requesting an additional four staff to assist us in our data collection, analysis and dissemination.

As previously mentioned, RSPA intends to issue an ANPRM extending the HAZMAT Rules to intrastate motor carriers, and such a rule would increase the incident reports that we receive.

Item five relates to the need for better coordination between Federal agencies involved with hazardous materials transportation and with the states. We are requesting a budget of $305,000 for Fiscal Year 1988. We are also requesting two more staff.

I see the yellow light.

Senator EXON. You go right ahead.

Ms. DOUGLASS. Okay. My letter said 10. I can move quickly, though.

To carry out our coordination and constituent report responsibilities, we have created an office of Federal, State and private sector initiatives to increase our coordination and communication among all the parties.

We have been holding intermodal meetings within the Department of Transportation. We have set up a number of workshops with the states on a regional basis to increase our coordination with the states.

We have set up an information clearinghouse with FEMA to increase our coordination and communication with the states on emergency response planning. Yesterday, we executed a memorandum of understanding with FEMA which clarifies RSPA's role and

FEMA's role in emergency response for hazardous materials transportation accidents. RSPA and FEMA have been engaged in a number of coordinating activities.

We have also joined about a year and a half ago the National Response Team, which is made up of 14 agencies to coordinate information on hazardous materials generally.

Item six relates to the roles for emergency response planning and training. I have briefly mentioned some of the things that we have been involved in in that area, and I also want to mention the emergency response guidebook which we are continuing to publish. I think you have one in front of you. It is the yellow book. That is very useful to State and local responders. Firemen and policemen, when they are responding to an accident, they can use that book to determine what kind of emergency response they need to have and whether they need to evacuate a community. It is very useful.

I also wanted to mention some of the private sector intiatives that have been started in this emergency response area, but I think CMA and the American Trucking Association will mention those. I do want them to get some good credit, because they have done just a terrific job in this area.

In conclusion, the Office of Hazardous Materials Transportation has made progress in addressing the shortcomings in our program. Further, I believe our budget and program for next year will allow us to make further improvements, but we would like your support, and we welcome your advice.

Thank you.

STATEMENT OF M. CYNTHIA DOUGLASS, ADMINISTRATOR, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DOT

I am pleased to be here today to present our authorization request for Fiscal Years 1988 and 1989 for the Hazardous Materials Transportation Act [HMTA]. My statement will highlight the recent progress we have made toward fulfilling our mandate under the statute. For Fiscal Year 1988, we are seeking an $8.8 million authorization for the hazardous materials transportation program.

Last year, the Research and Special Programs Administration [RSPA] asked for and received both a dollar increase and a staffing increase. This year, we are again asking for a budget and staffing increase. We are requesting an increase of $1.5 million and seven staff which will allow RSPA to address important recommendations in the Transportation Secretary's Safety Task Force Report on our hazardous materials program. In addition, it will allow RSPA to continue the Federal/State relationship established for assisting States in developing hazardous materials enforcement and emergency response capabilities.

The Hazardous Materials Transportation Act of 1974 provides the primary legislative authority for assuring the safe transportation of hazardous materials by all modes. Responsibility for implementation of the Act has been delegated to RSPA.

To meet this responsibility, RSPA conducts a multi-faceted regulatory program that consists of six interrelated parts.

We develop, promulgate and maintain regulations governing all aspects of hazardous materials transportation;

We provide for and coordinate enforcement of the regulations to assure industrywide compliance;

We train those charged with enforcing the regulations;

We collect, analyze and disseminate data and other information related to hazardous materials transportation;

We interact with constituency groups concerned with hazardous materials transportation safety; and

We provide assistance in cooperation with FEMA and EPA to those who must respond to hazardous materials transportation accidents.

I will address each of these program parts.

REGULATORY PROGRAM

The RSPA develops and issues regulations governing hazardous materials transportation by all modes (excluding bulk transportation by vessel, standards for which are developed by the U.S. Coast Guard). The Federal regulations cover definitions and descriptions of hazardous materials; hazard communications including preparation of shipping papers, package labeling, and vehicle placarding; packaging requirements and specification for containers authorized for shipment of hazardous materials; and loading and handling procedures for shippers and carriers. The regulations apply to air, rail, vessel and highway transport. We also have responsibility for assuring consistency of the regulations within the international community.

FY 1987 accomplishments of the hazardous materials regulatory program include:

Performance-Oriented Standards

RSPA has completed a Notice of Proposed Rulemaking (NPRM) on performance-oriented packaging standards which will significantly reduce the volume of the Hazardous Materials regulations and bring them into alignment with international standards. Performance-oriented standards are expected to promote flexibility and technological advances in packaging, improve safety by relating packaging performance to the transportation environment, and reduce the industry and government burden inherent in the regulatory exemption process. The NPRM will be published in the Federal Register by the end of the month.

Cargo Tank Safety

A Notice of Proposed Rulemaking for cargo tank safety was issued in 1985. Primary elements of the NPRM address the manufacture, operation, maintenance, repair and requalification of all Department of Transportation [DOT] specification cargo tanks (100,000). DOT has received numerous comments and counter proposals which substantially exceeded that excepted and has lengthened the evaluation process. Accordingly, DOT began during March and is continuing in April 1987, a series of public working meetings with these commenters to clarify their comments and discuss the alternative proposals made in their comments.

Application of Federal Rules to Intrastate Motor Carriers

We currently apply our regulations to intrastate carrier activities pertaining to the transportation of hazardous wastes, all hazardous substances subject to Superfund, and flammable cryogenic gases. We are developing an Advance Notice of Proposed Rulemaking (ANPRM) to address the issues of fully applying our jurisdiction to intrastate motor carriers. The majority of those operations are small businesses involved in private motor carriers operations e.g., a small petroleum distributor servicing a community that is not located near a State border. We expect to publish this ANPRM next month.

Training of Hazardous Materials Handlers and Shippers

RSPA is developing an ANPRM which seeks comments on establishing training requirements for persons involved in the transportation of hazardous materials. Any such requirements would apply to shippers and carriers of hazardous materials. The ANPRM will be published this spring.

Driver Licensing of Hazardous Materials Drivers

RSPA is working with the Federal Highway Administration to develop a regulation concerning minimum Federal standards for testing and licensing commercial vehicle operators as required by the licensing of Commercial Motor Vehicle Safety Act [CMVSA] of 1986. The primary provision limits commercial operators to no more than one driver's license. The regulations will also cover such areas as notification requsirements, employer responsibilities and testing of operators, including special testing requirements of drivers who will be hauling hazardous materials. The driver must be tested in accordance with all the appropriate regulations under the Hazardous Materials Transportation Act and have a working knowledge of those regulations. Hazardous materials drivers will be required to demonstrate knowledge of proper handling, operation of emergency equipment, and emergency response procedures. Pursuant to the CMVSA of 1986, the Secretary must establish the minimum Federal testing standards by July 15, 1988. The FHWA will issue a NPRM with the minimum standards this Fall and a final rule in the summer of 1988.

Emergency Response Information

RSPA expects to publish a NPRM this Spring to facilitate communication of emergency response information.

During the remainder of FY 1987 and FY 1988, RSPA also expects to publish proposals concerning explosives, insurance, incident reporting, ordorization of LP gas, registration and acetylene cylinders. RSPA also has ongoing projects to rewrite and update existing rules on high pressure cylinders and the carriage of hazardous materials by motor vehicle.

RSPA also represents the Department in several international forums that develop international standards for the transportation of hazardous materials. Application of international standards by governments throughout the world has a direct economic impact on U.S. hazardous materials shippers and carriers involved in export trade. The various international organization in which RSPA participates are as follows: The United National Committee of Experts on the Transport of Dangerous Goods; The International Maritime Organization Committee on the Carriage of Dangerous Goods; The Dangerous Goods Panel of the International Civil Aviation Organization; The Group of Experts on the Transport of Dangerous Goods of the Economic Commission for Europe Inland Transport Committee; and The International Atomic Energy Agency.

RSPA's continuing objective is to ensure that the standards adopted by these international bodies provide satisfactory levels of safety and do not create artificial trade barriers to the U.S. hazardous materials industry.

ENFORCEMENT PROGRAM

Under the delegations of authority within the Department of Transportation each mode is responsible for enforcement of the hazardous materials regulations applicable to its mode. RSPA is specifically responsible for the enforcement of regulations applicable to the manufacture, reconditioning, and retesting of most DOT specifications containers, and multimodal transportation of hazardous materials. RSPA is responsible for coordination among the modal administrations. To carry out this responsibility, the Department has a cadre of over 1,000 full and part-time inspectors. In 1985 this equated to 273 total work years distributed as follows: the Federal Highway Administration spent 24.40 work years; the Federal Aviation Administration spent 14.6 years; the Federal Railroad Administration spent 48.5 work years; and the U.S. Coast Guard spent 178 work years; and, RSPA spent 7.5 work years on hazardous materials enforcement. These numbers are increasing and will increase further as we develop our Federal/State partnership. In FY 1988 RSPA is requesting $875,500, an increase of $290,000 to increase the enforcement of our rules. We are also requesting an additional inspector to monitor the transportation of explosives.

During FY 1987 RSPA increased its leadership among the modes for hazardous materials transportation enforcement. We did this through the sponsoring of bimonthly enforcement meetings. Through this process RSPA implemented with the full cooperation and assistance of the other DOT administrations a set of intermodal interpretations' procedures. Under the procedures, RSPA's Chief Counsel Office is responsible for issuing all interpretations of the Hazardous Materials Transportation Act and the hazardous materials regulations issued thereunder. Each interpretation is fully coordinated with the other agencies prior to issuance, and is disseminated to agency counterparts in the United States. A separate data base has been established in the Hazardous Materials Information System, and by the end of the Fiscal Year, the computer retrieval of the interpretation will be completely "user friendly." We will enhance dissemination by publishing abstracts in our Hazardous Materials Newsletter as well as making them available to trade publications.

Because of the vast number of trucks carrying hazardous materials, the assurance of regulatory compliance requires more than an exclusively Federal enforcement effort. A Federal/State enforcement partnership is an essential part of the Federal regulatory program. RSPA has worked to develop our partnership with the states through the Cooperative State Hazardous Materials Enforcement Development Program (COHMED). This program continues the efforts of the successful State Hazardous Materials Enforcement Development Program (SHMED) carried out by RSPA and authorized by Congress in Fiscal Years '83, '84 and '85.

SHMED was a pilot program designed to provide technical and financial assistance to states to develop and implement a hazardous materials enforcement program. The objective was to encourage states to take a more active role in the enforcement of the hazardous materials regulations through adoption of the Federal standards or the development of comparable regulations. It enabled the 25 participating states to develop enforcement capabilities, within existing public agencies, thereby vastly increasing total resources devoted to enforcing the hazardous materials transportation standards nationally.

RSPA's program was boosted by Congressional passage of the Surface Transportation Assistance Act in 1984. Section 402 of that Act created a new grant-in-aid program for motor carrier safety (including hazardous materials) enforcement. RSPA assists FHWA in the review of the States' MCSAP grant applications to ensure that effective hazardous materials transportation programs are established.

To assist us in that effort and to ensure better communication and coordination between ourselves and among the States, RSPA sponsors the COHMED Program which allows the Federal and State people responsible for hazardous materials transportation to share information regarding regulations, training, interpretations, enforcement, and research which will assure a better regulatory scheme and more uniformity. As a result of these workshops, we have initiated a number of the states' recommendations including establishment of procedures to provide for the uniform interpretation of the Hazardous Materials Transportation Act and hazardous materials regulations; the development of "menu-driven" program to enable states to tap into the Department's exemptions data base; development of a Hazardous Materials Modular Inspection/Enforcement Training Proposal; and development of a COHMED newsletter, the "Reporter."

We have also initiated a series of regional workshops focused on radioactive materials transportation issues. These workshops were implemented by RSPA with the cooperation of Department of Energy [DOE], Nuclear Regulatory Commission [NRC], and Federal Emergency Management Agency [FEMA] to develop a coordinated and cooperative effort among State, Indian nations, and Federal agencies which have regulatory and enforcement responsibilities for assuring the safe transportation of radioactive materials. The agencies share information regarding nuclear materials, emergency preparedness and response to incidents, inspection and enforcement, and notifications of shipments. We expect to continue active support and participation in public forums directed at resolving the public's concerns for the safe transport of radioactive materials.

TRAINING

A particularly important aspect of the national program to assure safety and uniformity in the transportation of hazardous materials is the provision of appropriate training to Federal and state enforcement personnel who have responsibility for the enforcement of the hazardous materials regulations.

The Secretary of Transportation established the Transportation Safety Institute [TSI] in Oklahoma City, Oklahoma to improve transportation safety and security by designing and conducting training programs responsive to modal and intermodal requirements. Hazardous materials transportation safety is one of the subject areas for which TSI provides training services. In FY 1987, RSP will spend approximately $245,000 to train safety professionals in the requirements for the safe transportation of hazardous materials. In FY 1988, we expect to spend $455,000 and to offer six hazardous materials courses along with new training services. RSPA has also developed a self-study course for state enforcement specialist which TSI has used successfully in combination with its own resident enforcement training. When an enforcement specialist completes the self-study course prior to attending TSI training, that enforcement specialist requires only one week of resident training compared to the normal two weeks needed without prior home study. This approach to training allows us to provide technical information and guidance to significantly greater proportion of our constituency than could be reached within the same budget by exclusive reliance upon direct classroom instruction.

In FY 1988, RSPA's request covers partial costs of staffing training at the Transportation Safety Institute. The State share of funding for training can be substantially met through dollars received from the Motor Carrier Safety Assistance Program (MCSAP), a Federal grant program carried out under the Surface Transportation Assistance Act, as amended.

DATA COLLECTION, ANALYSIS, AND INFORMATION DISSEMINATION

RSPA has responsibility for collecting, analyzing, and disseminating data. This is important to our regulatory and enforcement program as well as useful to State and local emergency response planners. We are requesting $1.5 million to carry out this responsibility. This is $600,000 more than requested in FY 1987. In addition, we are requesting an additional four staff to assist us in data collection, analysis, and dissemination.

Our request will allow us to maintain our hazardous materials information system (HMIS) and allow us to expand its scope and availability. With respect to the increase requested, $50,000 is necessary to support expanded use by the States; $55,000 is necessary for expanded trend analysis and policy development; $35,000 is needed for education and training of users; $70,000 is needed to expand the capability of HMIS to other computer systems; and $95,000 is needed to develop new data bases and more user friendly software. RSPA is also requesting $220,000 for implementation of a limited registration program should the rulemaking process support implementation. Our staff has been studying the availability and accessibility of data from other agencies such as EPA, OSHA, the Federal Highway Administration, and the Federal Railroad Administration, and assessing the cost/benefits of a registration program. A draft study is complete and is undergoing internal review. It should be available in May. As soon as final decisions are made, RSPA will begin taking whatever steps are necessary, including rulemaking.

Another part of the increased data and information budget, $30,000, is needed for RSPA to carry out its analyses and responsibilities under the Nuclear Waste Policy Act. Studies to be continued during FY 1988 are: The feasibility of tranporting spent fuels by various modes and the capability of the transportation industry to meet the potential transportation needs that will arise from implementation of the Act.

Additionally, we are requesting $40,000 to support the DOT/FEMA Information Clearinghouse which provides emergency response planning and training information to State and local emergency response planners.

This budget request will allow RSPA to make improvements in the data collection program and to build on three significant projects underway in FY 1987.

One such project is a comprehensive review by the Transportation Systems Center [TSC] of our data collection program. TSC will contact a variety of our constituents such as the States, review our current program, evaluate the current use of the data and make recommendations as to further information we should be collecting and how we can make better use of existing data.

Second, we are considering applying our Federal regulations to a broader range of intrastate shippers and carriers. This would significantly increase the amount of data we collect. As previously stated, an Advanced Notice of Proposed Rulemaking is being prepared.

Third, in FY 1987, RSPA completed a Notice of Proposed Rulemaking for a new DOT incident report form. The purpose of the new form is to provide more meaningful and comprehensive data, especially in regard to the causes of incidents and the failures of packaging. In addition, the use of the new form would enable RSPA to process the data more accurately and with greater speed.

CONSTITUENT SUPPORT AND COORDINATION

Another important part of our hazardous materials transportation program is our contact and interaction with members of the regulated community, concerned public citizens, and the State and local government officials responsible for implementing related government policy at a regional level. We are requesting a budget of $305,500 for FY 1988 which is $105,000 more than last year. We are also requesting two more staff.

To carry out our coordination and constituent support responsibilities, RSPA created the Federal, State, and Private Sector Initiatives Division to provide communication and coordination between RSPA and other elements of the Department, other Federal agencies, State and local governmental agencies, and private-sector groups. It also supports State and local governmental officials in their enforcement and emergency response activities.

The office has been effective in improving intermodal coordination in the Department through establishment of a DOT Intermodal Hazardous Materials Coordination committee made up of representatives from each of the modes—FHWA, FAA, USCG, FRA, and RSPA who is the chair. We meet once a month to review rules, research and other issues affecting hazardous materials transportation.

We are also working to improve our communication and coordination with other agencies. As an active member of the National Response Team [NRT], RSPA works with all 14 members in all areas of hazardous materials.

In this regard we are working to implement a national strategy to create and maintain an active an continuous learning system for personnel involved in emergency preparedness and response, with more emphasis on innovative, nontraditional learning supported by conferences, workshops, simulations, and some traditional classroom training.

To enhance our communication with the States we have implemented the previously discussed COHMED workshops as well as workshops of radioactive materials. The workshops are scheduled at various locations across the country where there is a current or potential high interest in the movement of nuclear materials. Two workshops have already been held, one in Boise, Idaho, and one in Santa Fe, New Mexico. RSPA brings together states, Indian Nations, and other Federal agencies to exchange concerns and information.

We have recently executed a Memorandum of Understanding with FEMA to identify emergency preparedness roles and responsibilities involving the transportation of hazardous materials and to establish joint program efforts in planning, training and information development, dissemination, and exchange.

RSPA also serves within the DOT as the single point of contact between DOD and DOT in matters involving the transportation of hazardous materials. We have been meeting with DOD on clarification and resolution of issues involving DOT audits of all Military Traffic Management Command [MTMC] carriers, DOD problems with the U.S. adoption of the new U.N. performance-packaging and marking requirements, and emergency response procedures involving shipments of explosives and radioactive materials.

EMERGENCY RESPONSE

The developments outlined convince me that we are moving surely and steadily toward an effective national scheme for enforcing the hazardous materials safety regulations. Even so, we cannot eliminate all accidents involving the release of hazardous materials.

In the event of such an accident, it is vital that efforts to lessen the hazards be initiated as rapidly as possible. For this prompt response to be possible, a number of actions must be taken, including: (1) notification of appropriate Federal, State, and local government agencies that a hazardous materials incident has occurred; (2) proper identification of the physical or chemical properties of the released material; (3) determination of the most effective way to safeguard life, property, and facilities from the associated hazards; and (4) use of the most effective methods to clean up the spill and to restore normal conditions. State and local jurisdictions have the primary role in responding to transportation emergencies because of the infinite number of possible accident sites, the wide range of materials which may be involved, and the critical need for immediate action. These activities require a Federal, State, local and private-sector partnership. No one can do it alone.

In FY 1988 RSPA expects to spend $440,000 on emergency response activities. As previously mentioned we are also requesting one additional staff.

RSPA has worked in the last few years to increase the clarification of roles, to increase coordination and communication and to assess the needs. RSPA has jointly sponsored workshops with FEMA and EPA on emergency response. We have joined the National Response Team and sought to increase the coordination and attention given to emergency response to hazardous materials transportation accidents. As we mentioned previously, RSPA and FEMA have completed a Memorandum of Understanding to more clearly define our roles. FEMA and RSPA have completed a study of Emergency Response Planning and Training. RSPA and FEMA have established an Information Clearinghouse to provide emergency response planning and training information to State and local planners. We are working with the International Bridge, Tunnel and Turnpike Authority to survey the flow of hazardous materials on that system.

These are all new initiatives RSPA has undertaken in the last 2 years to improve the Federal role in hazardous materials transportation emergency response.

In addition, we are continuing a number of other initiatives which have provided valuable assistance to State and local responders. For example, this year we are republishing the Hazardous Materials Emergency Response Guidebook (ERG). The ERG is designed to meet the needs of various government agencies directly involved in responding to accidental releases of hazardous materials during transportation. It is being updated every 3 years to reflect changing information and technology. Under a mandatory identification system, four-digit numbers identifying the hazardous materials being transported must be shown on orange display panels or on the placards that are required on tank trucks, rail cars, and portable tanks carried on vehicles. The ERG enables persons who are unfamiliar with chemical names to identify a hazardous material through the use of the four-digit number, and to determine what safety measures should be taken immediately in the event of an accidental release. It is intended for use by fire fighters, police, and other emergency services personnel as a guide for initial actions to be taken to protect themselves and the public when they are called on to handle incidents involving hazardous materials. Initial emergency response guidance is provided for virtually all hazardous materials that are transported in the United States. RSPA has distributed more than 1.5 million copies of the Guidebook.

An important, RSPA-supported mechanism for assisting government agencies in providing emergency services when hazardous materials incidents occur is the Coast Guard-operated National Response Center [NRC]. The NRC, which was established in August 1974, provides a communication network which can notify appropriate State and local officials of a hazardous materials incident.

The NRC is data-linked to CHEMTREC, a service of the Chemical Manufacturers Association, which provides a centralized source of chemical emergency response information and assistance on around-the-clock basis. CHEMTREC does not operate under a legislative mandate. Rather, it is a chemical industry-supported system for providing assistance to anyone requesting help during an emergency arising from the accidental release of chemicals. CHEMTREC maintains a data base containing specific information concerning more than 18,000 chemicals. Both the NRC and CHEMTREC response centers provide toll-free, 24-hour service to emergency services personnel who are prepared to respond to hazardous materials incidents.

RSPA has encouraged the industry over the last few years to sponsor more initiatives in this area. The list of industry's accomplishments are impressive. These industry programs can help to reduce the Federal funding necessary if the programs are developed and coordinated with the Federal, State, and local planners and the programs are then made accessible to those in need. Among several successful industry programs are training videos; a toll-free number providing planning information to planners and consumers; the Community Awareness for Emergency Response program; and publication of a pocket-sized Emergency Response Guidebook, to list just a few. One additional program which holds great promise is a program referred to as CHEMNET, a mutual aid network between chemical shippers and for-hire contractors that will provide advice and assistance at the scene of a major chemical distribution incident.

The effectiveness of our program is evidenced by our good safety record for the transportation of hazardous materials. Of the approximately 250,000 shipments a day in 1986, there were 16 fatalities and 315 injuries. While this is a higher number of fatalities than the previous year, it is very low when one considers the large number of very harzardous materials shipments that take place daily.

Last year, you may recall that several important studies and reports were completed. They were: The Secretary's Safety Task Force, the Office of Technology Assessment Report, RSPA's National Hazardous Materials Tranportation Committee Report, and Congresswoman Cardiss Collins Report on training. All reports were aimed at improving safety in hazardous materials transportation and identified areas for special attention. RSPA participated to a great extent in all of the studies and, in short, we agree with gist, if not every specific part of the recommendations. The highlighted areas of concern are:

(1) Issuance of the Performance-Oriented Standards for Small Packages.

(2) Application of the Hazardous Materials Rules to Intrastate Carriers.

(3) Driver and Handler Training.

(4) An Improved Data Base.

(5) Better Coordination Between Federal Agencies Involved with Hazardous Materials Transportation and with the States.

(6) Roles for Emergency Response Planning and Training.

(7) Routing of Hazardous Materials.

(8) The Multiplicity of State and Local Laws for Hazardous Materials Transportation.

RSPA has been working to address each of these problems. The problems are complex and often expensive to address, but we believe they are important.

The preceding testimony has touched on all but the last two of these issues. The last two are being addressed in our hazardous materials transportation reauthorization proposal which is currently under review by concerned agencies. We anticipate submitting the proposal to you in the near future.

The Office of Hazardous Materials Tranportation has made progress in addressing short comings in our program. Further, I believe our budget and program for next year will allow us to make further impovements. We would like very much to have your support and welcome your advice.

Thank you and I will be happy to answer your questions.

[The following information was subsequently received for the record:]

QUESTIONS OF THE COMMITTEE AND THE ANSWERS THERETO

SENATOR EXON: Some have proposed the use of dedicated trains to carry shipments of extremely radioactive materials. What are your views on this?

ANSWER: Although the use of dedicated trains is a transportation option for the shipment of radioactive materials, we do not believe they are necessary for the safe transportation of these materials. The Department of Transportation through the Research and Special Programs Administration (RSPA) and the Federal Railroad Administration (FRA) has promulgated a comprehensive system of regulations encompassing package design, fabrication, labeling and marking, cargo segregation and separation, and other regulations that ensure the integrity of the packaging during transport. These regulations are directed toward minimizing radiation exposure, reducing the possibility of damage to the packaging during transport and preventing the release of the radioactive materials should an accident occur. In this way, the Department ensures that impacts on public health and safety from the transport of radioactive materials are minimized.

In considering the transportation options for any shipment of hazardous materials, including radioactive materials, a number of factors must be examined according to the specific situation before a final decision is made. These factors include size, weight and radiation level. As long as the public health and safety is protected through the implementation of the existing safety regulations for the shipment of radioactive materials, we should maintain the flexibility for a shipper to choose the type of train service needed for a specific situation.

SENATOR EXON: It is my understanding that DOT has regulations governing the routing of radioactive materials on the highways, but that there are no comparable regulations for rail transportation. Can you explain the reasons for this distinction?

ANSWER: DOT has not established routing guidelines for rail shipments of radioactive materials similar to those in effect for highway shipments. While this issue has been and is the subject of continuing examination by the Department, we do not believe that there are sufficient benefits to be derived to justify imposition of rail routing restrictions at this time.

In the case of highway transportation, the Department did impose routing restrictions in order to further reduce the already low risk, by requiring the use of the Interstate highway system or State designated alternatives. Three differences between the rail and highway networks and operating practices work against similar rail restrictions.

First, the rail network is relatively more sparse than the highway network reducing the availability of routing alternatives. In addition, most of the network is designed to serve, and passes within or in close proximity to, major population centers. Many cities were located, grew and prospered precisely because of their access to rail service.

Second, rail routes are classified, and operational parameters such as speed are restricted, according to track quality and maintenance. These restrictions act to reduce the probability and severity of accidents on poor quality track, so that the safety record remains comparable, across network segments.

Finally, it is more likely that trained and experienced emergency response personnel will be available in communities adjacent to and familiar with rail freight services, in the unlikely event that an incident occurs.

In order to continue this excellent safety record, the Department is expanding efforts with the states to enhance the enforcement of existing nuclear transportation safety regulations. DOT's Motor Carrier Safety Assistance Program (MCSAP), Cooperative Hazardous Materials Enforcement Development Program (COHMED), and our annual series of regional nuclear transportation workshops (TRANSRAM) all are addressed at developing improved understanding of the existing safety standards.

SENATOR EXON: What role do you feel States and localities should play in the transportation of radioactive materials? How do you feel the Federal government might improve in its assistance to states and localities, particularly in terms of information and resources?

ANSWER: The states and localities have a significant role in the transportation of radioactive materials in areas of enforcement, highway routing and emergency response. A number of state governments have active enforcement programs, performing inspections at loading and unloading sites and at various places enroute. This enforcement has had the effect of putting the regulated community on notice that their shipments will be under surveillance. This enforcement could not be done with the limited number of Federal inspectors available. The DOT regulatory docket, HM-164, which addressed the highway routing of placarded radioactive materials recognized that states are in the best position to establish preferred alternative routes within their borders. Several states have already designated alternate routes in lieu of certain interstate highways within their states. The role of state and local governments in emergency response has been recognized by a number of Federal agencies. Many, but not all of these local entities have the capability to handle emergency response actions on an immediate basis until more qualified expertise and appropriate handling equipment arrive at the scene. Due to geographical locations, response time requirements and the availability of medical assistance, local jurisdictions with proper equipment and training are the most logical immediate responders to accidents.

In 1984 we reviewed our relations with the states and determined that a stronger partnership was necessary to promote a better understanding of enforcement procedures and emergency response techniques. Accordingly, RSPA has become more involved with the efforts of state and local governments in a number of ways.

RSPA conducted a pilot program to provide technical and financial support to states to develop and implement a Federal/state partnership contract program in hazardous materials transportation safety. The program State Hazardous Materials Enforcement Development Program (SHMED), was designed to foster uniformity in hazardous materials transportation regulations and to develop each state's ability to enforce those regulations. From a resource standpoint, the program was intended to provide "seed money" to cover costs associated with developing or implementing a hazardous materials transportation inspection and enforcement program.

The SHMED program fulfilled its intent in assisting the states in implementing their hazardous materials enforcement programs, thereby increasing uniformity on a nationwide basis in the enforcement of the regulations. The states that were involved in SHMED have continued to enforce the regulations after funding has ceased. As the SHMED program was phased out, the Motor Carrier Safety Assistance Program (MCSAP) was initiated with hazardous materials enforcement as an integral part of the MCSAP's grant program.

RSPA now administers COHMED, the Cooperative Hazardous Materials Enforcement Development Program. While COHMED does not provide funding directly to the states for enforcement as MCSAP does, COHMED provides technical guidance and monitors performance of state enforcement of the Federal Hazardous Materials Regulations.

RSPA conducts informational programs for those concerned with transportation of radioactive materials. One such example is the series of five workshops which we are conducting in 1987. These workshops are held at various locations across the country where there is a current or potential high interest in the movement of radioactive materials. RSPA involves other Federal agencies in this effort, including the Federal Railroad Administration, the Federal Highway Administration, the Department of Energy, the Nuclear Regulatory Commission, and the Federal Emergency Management Agency. These workshops provide a forum to educate, assess the need for changes in regulatory requirements, coordinate program efforts of the concerned agencies, and present a unified Federal focus.

RSPA continues to provide substantial assistance to state and local governments through a variety of conferences, workshops, informational material, and training, and offers specialized assistance when appropriate. This assistance has been made available as a part of RSPA's program for several years and now includes the transportation of radioactive materials and hazardous waste. In FY 1988, $819,500 has been requested for these purposes since RSPA is committed to assisting state and local governments in the prevention and mitigation of transportation incidents, supported by our limited monetary resources and the expertise available from our staff.

RSPA and FEMA have jointly implemented a program to improve dissemination of information on emergency response planning and training. This Hazardous Materials Information Exchange provides a calendar of training events and conferences; available instructional materials; on-line databases; and information on new regulations, laws, and recent news events concerning hazardous materials and emergency response activities. The Exchange can be accessed by a computer or by dialing a toll-free telephone call for verbal assistance.

RSPA is also working with the National Response Team (NRT), composed of fourteen Federal agencies, to provide training and assistance to improve state and local response programs and is coordinating with other Federal agencies having interest in emergency response. We have executed a Memorandum of Understanding with FEMA to identify each agency's role in emergency response and to establish a framework for cooperation between FEMA and DOT in establishing programs for planning and training; and for information development, dissemination, and exchange.

Our strategy builds upon existing resources to create and maintain an active and continuous learning system. It recognizes that emergency preparedness and response training must be implemented and managed at state and local levels. The Federal involvement and responsibility is to provide national direction and guidance, develop training packages to be conducted at the state and local levels and, when necessary, conduct specialized training in selected areas.

SENATOR EXON: What is the magnitude of the clean-up problems at the present nuclear waste sites and the associated impact on transportation?

ANSWER: Last July the House Science and Technology Committee conducted hearings on the decommissioning of nuclear power plants and focused on the Shippingport Nuclear Power Station in Shippingport, Pennsylvania. This facility was the first commercial demonstrator reactor in this country and the largest such power plant to undergo full decommissioning. The Department of Energy (DOE) is responsible for the decommissioning of the Shippingport facility which is considered a demonstration project. This project is expected to develop important information which can be applied to the planning of approximately 100 licensed nuclear facilities eligible for decommissioning in the future. Testimony indicated that the current (1986) estimated cost of decommissioning the Shippingport facility is $100 million and the cost of decommissioning larger and more complex facilities was estimated at $130 million. These preliminary figures indicate significant decommissioning costs in the future.

The decommissioning of these nuclear power plants will certainly have an impact on transportation, but the full implications are difficult to assess from the Shippingport project alone. A critical factor in selecting transportation modes and routes in a decommissioning project is the size and weight of the pieces to be shipped. The steel pressure vessels of the nuclear reactors are so large that they can not be transported by highway or rail unless they are broken up into manageable pieces. A safe and cost-effective process for doing this is still being developed. In the case of Shippingport, the pressure vessel will be kept intact and shipped by barge to New Orleans through the Gulf of Mexico, the Pacific Ocean by way of the Panama Canal, and finally up the Columbia River to Hanford, Washington. The Transportation plan for future decommissioned sites is to use the highway and rail systems where possible and practical and to apply the present routing regulations in 49 CFR, § 177.825.

SENATOR ADAMS: How does DOT determine whether DOE's self-certification process actually results in NRC equivalent casks?

ANSWER: DOE submits for DOT review documents that describe the DOE's package certification program. These documents consist of procedural manuals for certification of the packages and course manuals for training package reviewers. The procedural manuals describe the DOE certification process, the relationship and effect of DOT, NRC and internal regulations on the program, and the review process of the Safety Analysis Reports for Packaging (SARPs). The course manuals provide, among other topics, the method for reviewing SARPs and other supporting documents, and the evaluation of quality control programs. In June 1987, DOE submitted additional information to DOT to document its certification program. To ensure that DOE-certified casks are equivalent to NRC-certified casks, DOT reviews these documents as part of an agency program under which DOT will review activities conducted under DOE's certification program.

To date DOT has not determined that onsite reviews are a necessary part of this review process. However, DOT will not hesitate to perform onsite reviews, as appropriate, to assure that DOE is in compliance with the provisions of 49 CFR 173.7(d).

SENATOR ADAMS: How does DOT determine that DOE certified casks are built, maintained, and operated in a manner equivalent to NRC licensed casks?

ANSWER: DOT examines DOE's package certification program as it relates to such areas as design, fabrication, assembly, testing, and quality assurance for radioactive materials packages. DOT has acted quickly in the past to effect timely correction of problems or deficiencies with DOE's certification program. Additionally, DOT, as part of its hazardous materials inspection and enforcement program, may review the manner in which the package is actually used in transportation. However, to date DOT has not determined that inspecting and auditing DOE's quality assurance, maintenance, and operations programs are a necessary part of DOT's review process.

DOE during its procurement process must necessarily ensure that casks are manufactured in accordance with design specifications. Additionally, DOE performs safety audits that examine the maintenance and operational aspects of its package certification program. However, DOT recognizes that problems may occur if the organization unit responsible for auditing and inspecting functions is not independent of the unit that provides for use of the cask.

As indicated in the previous answer, DOT periodically reviews documents associated with DOE's certification program. Upon completion of the current review, DOT will reexamine its oversight role of DOE's transportation program, including those aspects covering the manufacture, maintenance and use of casks.

SENATOR ADAMS: Under DOT regulations (49 CFR 173.7(b)), DOE and DOD can be exempted from DOT HazMat regulations for the purpose of national security. Please provide an inventory of the types and number of shipments made under this exemption for the last ten years for both DOE and DOD.

ANSWER: 49 CFR 173.7(b) does not provide for an exemption for DOD or DOE national security shipments of radioactive materials. That section provides those shipments with an exception to compliance with the regulations when DOE or DOD make or supervise the shipments of radioactive materials, and provide escort personnel. Since DOE and DOD are not subject to DOT reporting requirements when they transport radioactive materials under § 173.7(b), DOT has no data on the type or number of such shipments.

SENATOR ADAMS: DOT has a routing rule, HM-164, for truck shipments of radioactive material. DOE estimates that at approximately 70% or more of the commercial spent fuel shipments to its commercial nuclear waste facilities at a repository or monitored retrievable storage facility would be by rail. What actions, analyses, or studies has DOT undertaken to address the consequences and impacts of rail shipments of high-level waste?

ANSWER: As is the case with all DOT regulations, our regulations governing the rail transportation of hazardous materials are developed and promulgated in accordance with our formal rulemaking process. This process includes technical, cost-benefit, regulatory impact and other studies, such as the specific examples discussed in the answers to the following questions. Of necessity, these cover all aspects of our regulations, including exposure limits for employees and the public, container design, operating procedures and information requirements. Opportunity is afforded to interested parties, such as the regulated industry, other Federal and state agencies and the public, to comment on proposed regulations and their analytical underpinnings, and all comments are carefully considered.

DOT sponsored an effort which assessed state and local notification requirements for transporting radioactive and other hazardous materials. This assessment led to an options document, "Options for Gathering Information About Shipments of Radioactive and Other Hazardous Materials", which assists states and local governments in emergency response planning and preparedness. In addition, an analysis was performed for DOT by Sandia National Laboratory of large engulfing open pool fires to determine the local thermal input from the fire environment to a test article as might be experienced by a spent fuel cask in a rail accident. This research is reported in Sandia Report SAND85-1821, June 1986, "Determination of Net Heat Fluxes and Assessment of Test-to-Test Thermal Input Variations for Three Large Engulfing Open Pool Fire/Calorimeter Tests".

DOT also participates in and reviews evaluations performed by NRC, DOE and others (such as the recent study on "Shipping Container Response to Severe Highway and Railroad Accident Conditions" (NUREG/CR-4829) performed for NRC and the 1986 Sandia Contractor Report "Railroad Transportation of Spent Nuclear Fuel" which documented a detailed analysis of rail operations critical for assessing the risk of transporting spent nuclear fuel) for their possible impact on our efforts.

SENATOR ADAMS: During the question period, the Department was asked to explain its emergency response requirements for nuclear shipments. In particular, it was pointed out that the current "Emergency Response Guidebook" gives Chemtrec's phone number for response to a placarded nuclear shipment.

a. Please provide the contract the Department has with Chemtrec including a breakdown of fees or payments associated with this contract.

b. Please provide an explanation of the Department's obligations under the HMTA to provide emergency response information and how the Chemtrec contract fulfills those obligations.

c. Please provide a detailed explanation of how the Department currently provides emergency response information, training, inspection and enforcement of both commercial and DOE nuclear shipments.

ANSWER: a) the Department does not have a contract with CHEMTREC but operates under an agreement (attached) which was signed March 13, 1980 by the Administrator of RSPA and the President of the Chemical Manufacturers Association (CMA). No Federal funding of any type is used to support CHEMTREC which involves industry expenditures in excess of $1 million annually.

b) The Hazardous Materials Transportation Act (HMTA) under Section 109(d)(1)(B) requires that the Secretary of Transportation shall "establish and maintain a central reporting system and data center so as to be able to provide the law-enforcement and firefighting personnel of communities, and other interested persons and government officers, with the technical and other information and advice for meeting emergencies connected with the transportation of hazardous materials." RSPA believes the Coast Guard's National Response Center (NRC) and CHEMTREC achieve this requirement.

In the Hazardous Materials Transportation Act Amendments of 1984 (Senate Report 98-479), Section 109(d)(2) was added to provide:

> ... Nothing in this subsection shall be construed to limit the authority of the Secretary to enter into a contract with a private entity for use of a supplemental reporting system and data center operated and maintained by such entity.

This subsection clarified the relationship between DOT and the Chemical Manufacturers Association as both a sufficient and efficient means of satisfying the Department's statutory obligations in Section 109(d)(1)(B). The relevant part of the legislative report (S.Rep. 98-479, page 9) follows:

> Section 4--Reporting system and data center
>
> This section promotes more efficient use of private sector capabilities in response to emergencies. Under current law, DOT is required to establish and maintain a central reporting system and data center. Private industry, however, already maintains and operates a repository for information on chemicals and chemically related products; this facility is CHEMTREC, sponsored by the Chemical Manufacturers Association. In order to make the most effective use of this capability, DOT and the Chemical Manufacturers Association entered into an agreement in March 1980, which provides that the National Response Center, which is maintained and

> operated by the Coast Guard, and CHEMTREC will cooperate in collectively providing the system and data center required by current law.
>
> This section clarifies that this joint effort by DOT and private industry enables the Department to fulfill its statutory mandate without duplicating the effective efforts of CHEMTREC.

The CHEMTREC, 24-hour, 800 number service identified in the Emergency Response Guidebook (ERG) provides the central reporting system and technical data base required under HMTA. The CHEMTREC service provides emergency callers/responders with the necessary chemical characteristics involved, notifies the NRC (and vice-versa) as necessary and contacts the shipper when additional information and assistance is necessary.

c) RSPA has, over the last several years, a number of efforts underway with respect to emergency response. RSPA provides emergency response information involving nuclear accidents to firefighters and law enforcement officers through the Emergency Response Guidebook. Since 1980, over 1.5 million copies have been distributed without charge to state and local personnel who may become involved in transportation related hazardous materials emergency actions. Emergency response and other technical information is also provided by the NRC.

As an active member of the National Response Team (NRT), RSPA works with all 14 member-agencies in all areas of hazardous materials response planning and training. RSPA created the Federal/State and Private Sector Initiatives Division to provide formal and informal technical training and advice to and coordination with other elements of the Department, other Federal agencies, state and local governmental agencies and private sector groups. This assistance and support takes many forms, including seminars, workshops and special training materials. For example, RSPA is conducting a series of workshops in 1987 for state officials involved in the transportation of radioactive materials. These workshops are scheduled at various locations across the country where there is a current or potential high interest in the movement of nuclear materials. Three workshops have already been held, one in Boise, Idaho, one in Santa Fe, New Mexico, and one in Cedar Rapids, Iowa. RSPA brings together states, Indian Nations, and other Federal agencies to hear and respond to their concerns. These efforts lead to a reduction in the intense concern about the transportation of radioactive materials. They provide RSPA with a forum to learn as well as educate, and provide a basis to help assess the need for changes in regulatory requirements.

RSPA is also working with the Department of Energy (DOE) and the Commercial Vehicle Safety Alliance (CVSA) to develop guidelines for the inspection of spent nuclear fuels in transit. This information will be used by the states in developing their safety programs involving the transportation of radioactive materials.

RSPA's Enforcement Division employs one specialist who works full-time in the area of radioactive materials. This specialist conducts inspections at shipper facilities and in-transit facilities such as air freight terminals. RSPA also works with the Federal Railroad Administration with respect to shipments of spent nuclear fuel by rail. RSPA provides coverage of the initial movement from a given facility, and on subsequent shipments on an as-needed basis. For movements of spent fuel, the Federal Railroad

Administration provides coverage on all shipments in a series, including inspection of track along the intended route. RSPA participates in other inspections of spent fuel as requested. In addition, RSPA monitors the route plans submitted under 49 CFR 173.22(c), including those submitted by DOE or its contractors, for compliance with the routing requirements of 49 CFR 177.825(c).

RSPA has also worked with FEMA on two very important emergency response activities. First, we have entered into a Memorandum of Understanding (attached) with FEMA to clarify emergency preparedness roles and responsibilities and to establish joint program efforts in planning and training; and information development, dissemination, and exchange. Second, we have set up a Hazardous Materials Information Exchange with FEMA which provides state and local emergency personnel with information regarding prevention, preparation for and mitigation of hazardous materials emergencies. Access to this DOT/FEMA effort is via a personal computer with a modem or a call to 800-PLAN FOR.

SENATOR ADAMS: What has been the Department's involvement in the DOE's proposed shipments of transuranic contaminated wastes to the Waste Isolation Pilot Project in New Mexico including approval of shipping casks or routes?

ANSWER: The Department of Transportation involvement in the proposed shipment of transuranic wastes to the Waste Isolation Pilot Plant (WIPP) have centered around the proposed use by DOE of TRUPACT-1. Our response to Senator Adams' question #2 describes our position on proposed use of this shipping cask. With regard to the specific routes used, DOE and its contractors will be subject to the highway routing requirements as specified in 49 CFR 177.825. It is our understanding that DOE is working with states affected by WIPP shipments to assist them in designating state preferred alternative highway routes where appropriate.

In addition to being subject to the highway routing regulations, DOE and its contractors are subject to the entire body of hazardous materials regulations when shipments are made in commerce to the WIPP facility.

SENATOR ADAMS: Please provide a description of the Department's risk assessment methodology and criteria for approving shipment routes for radioactive materials under HM-164.

ANSWER: The Department's risk assessment methodology and the criteria for determining which highway routes are to be employed for shipments of certain radioactive materials (generally, spent fuel from a nuclear power plant) are described in detail in the DOT document entitled "Guidelines for Selecting "Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials."

This document, which was originally published in 1981 in conjunction with Docket HM-164 and in accordance with section 177.825 of the Hazardous Materials Regulations, is to be used by state routing agencies in examining and designating "preferred" alternative routes to Interstate System highways within their jurisdiction. Absent such a designation, Interstate System highways are the preferred or DOT-approved routes and are to be utilized by a carrier who operates a motor vehicle containing highway route-controlled radioactive materials.

The "Guidelines" present a step-by-step methodology for the comparative assessment of alternative routes within and between states (e.g., preferred routes in one state must link up with a preferred route in another state). Briefly, alternative routes are analyzed and compared, first, in terms of the extent to which they differ with respect to: a) the number of people that are exposed to the low levels of radiation that, within prescribed safety levels, are normally emitted during transportation; and b) the number of people that could be affected by, and the consequences that could result from, an accidental release of the radioactive material.

If, after careful analysis, it is revealed that alternative routes have essentially the same or lower level of risk in terms of the foregoing safety considerations, other route comparison factors that characterize each route may be evaluated. These factors include the effectiveness of a state's emergency response and evacuation capabilities, the presence of special facilities such as schools or hospitals, and the traffic fatality and injury rates associated with each alternative route.

The application of the methodology requires various calculations be made for purposes of developing an overall risk index, or figure of merit, for each route. The route with the lowest risk index, or figure of merit, will minimize both the normal radiation exposure to the public, and the consequences associated with the unlikely but not impossible accidental release of the radioactive material. The primary emphasis given in the application of the route selection methodology is on the risk which comes from the radiological nature of the cargo.

It should be emphasized that the "Guidelines" do not represent the only method for conducting an adequate routing analysis. States may be able to develop a better method of risk assessment or identify important risk factors peculiar to their own situations. Under the regulatory scheme established by Docket HM-164, the States are extended considerable flexibility in carrying out their routing functions, and they may designate a route as a preferred route, either on the basis of the "Guidelines" or the basis of an equivalent routing analysis which adequately considers the overall risk to the public.

SENATOR ADAMS: According to OTA, 25-50% of trucks are improperly placarded and in 1985 an all time high of 40% of inspected trucks were pulled out of service. Since placarding and safe vehicles are the first two lines of defense in the current Haz Mat system, it would appear that there simply isn't any defense.

During questioning after the Department's testimony, the Department disputed the existence and seriousness of misplacarded shipments. Please provide for the record the Department's current assessment of placarding compliance, enforcement records confirming the Department's position, and current enforcement practices.

ANSWER: RSPA disagrees with the conclusion drawn by OTA with respect to placarding. Placarding is only one component of an information communication system which is designed to provide information about hazardous materials being transported. Other components are marking, labeling, and shipping paper documentation. We believe that this system, when complied with, provides the information needed by emergency response personnel in case of an incident or accident.

OTA stated on page 5 of the Executive Summary of its July 1986 report on the transportation of hazardous materials that "State enforcement records show that between 25 and 50 percent of trucks are incorrectly placarded..." The source of this statement was page 63 of the March 1986 OTA report on state and local hazardous materials transportation activities. Yet the only mention of placarding violations on page 63 was in reference to a single state survey conducted by the State of Virginia in 1978, which found that "...the number of placarding violations...increased from 34 percent in 1977 to 55 percent in 1978." OTA extrapolated figures from a single state survey as a nationwide statistic for placarding violations.

The statement is also misleading because it fails to further expand upon the phrase "incorrectly placarded." There are different types of noncompliance associated with placarding. A placard may be the wrong color or the color may have faded; it may be of incorrect size; or it may be torn or partially obliterated. Some, but not all, of the placards may be missing. Most of these types of noncompliance do not significantly reduce safety. On the other hand, the placards on a vehicle may not correctly identify the material being transported, or there may be no placards at all when placards are required. These are viewed as serious safety violations. To merely state that trucks are "incorrectly placarded" fails to differentiate between serious and minor violations.

In discussions with state enforcement organizations, RSPA has been advised that most of the noncompliance associated with placarding is of a minor nature. Statistics developed by the Federal Highway Administration (FHWA) support this view, and also support our position regarding the accuracy of the OTA figures. FHWA prepared inspection and out-of-service statistics for FY 1986 for 35 states participating in the Motor Carrier Safety Assistance Program. The states conducted a total of 532,117 vehicle inspections; 55,879 of these were identified as hazardous materials inspections. There were 11,950 placarding violations found, which is a nationwide violation rate of 21.4%. The FHWA statistics are not further broken down into categories of placarding violations, except in one important respect: placarding violations which warranted placing a vehicle out of service. RSPA assumes that such a violation would be for one of the serious types of noncompliance mentioned previously. Of the 11,950 placarding violations, only 2,305 were such that vehicles were placed out of service. Thus the rate of serious placarding noncompliance, when compared to the total number of hazardous materials inspections conducted, was 4.1%.

For the first half of FY 1987, the states conducted 183,225 inspections, including 17,688 hazardous materials inspections. Placarding violations numbered 4,252, a 24% violation rate. There were 771 out-of-service placarding violations; the serious placarding noncompliance rate, compared to total hazardous materials inspections, was 4.4%.

SENATOR ADAMS: Please confirm and respond to the truck safety violations reported by OTA. If possible, please provide and comment upon truck safety violation statistics and problems specific to hazardous materials shipments as compared to aggregate truck safety violations.

ANSWER: Data provided to RSPA by the Federal Highway Administration (FHWA) related to truck inspections show that in 1985, 35.8% of all trucks inspected were placed out of service for all categories of problems; the OTA figure for 1985 was 40%. This percentage was 27.3 in 1983 and 30.4 in 1984.

During that same three-year period, inspections of vehicles carrying hazardous materials accounted for 27.4% of all vehicles inspected. The vehicle out-of-service rate for hazardous materials violations was 3.7% in 1983, 3.1% in 1984, and 5% in 1985. Thus the out-of-service rate for hazardous materials violations, when compared to that for motor carrier safety violations, is much lower.

SENATOR ADAMS: During the question period, the Department testified that it believed that most Department of Energy nuclear materials shipments were subject to DOT regulation. Please provide the types of number of shipments and mode of shipment of nuclear materials shipments by the Department of Energy (DOE) that are within the jurisdiction of the DOT and the types, number and modes of DOE shipments that are not covered.

ANSWER: All DOT shipments of radioactive materials are subject to DOT requirements except for those shipments made under paragraph 173.7(b) for national security purposes. Except for shipments made in the interest of national security, section 173.22 requires that, within 90 days following acceptance by a carrier of any package containing a highway route controlled quantity (HRCQ) of radioactive material for transportation by public highway, the shipper must file with DOT certain information about the shipment. Since January 1984, DOE has reported to DOT a total of 425 HRCQ shipments. During 1986, DOE reported 92 HRCQ shipments of which 67 were spent fuel. There are no reporting requirements for shipments of radioactive material that do not meet the HRCQ criterion or in the interest of national security.

SENATOR ADAMS: Under DOT regulations (49 CFR 173.7(d)), DOE may self-certify shipping packages. In theory, DOE must have packages equivalent to applicable NRC standards. In at least 9 cases, when DOE submitted its self-certified packages to NRC, it was unable to get them certified by NRC.

Please provide a memorandum identifying and describing the statutory basis and authority for 49 CFR 173.7(d).

ANSWER: The statutory basis for 49 CFR 173.7(d) is Section 105 of the Hazardous Materials Transportation Act, 49 App. U.S.C. § 1804, which authorizes the Secretary of Transportation to issue regulations for the safe transportation in commerce of hazardous materials. The original statutory basis for 49 CFR 173.7(d) was 18 U.S.C. § 834 (the Explosives Act) (Repealed, Pub. L. 96-129, § 216(b), Nov. 30, 1979, 93 Stat. 1015), which authorized the Interstate Commerce Commission (later the Department of Transportation) to promulgate regulations concerning transportation of hazardous materials, including radioactive materials. The statutory history is somewhat confused. The Explosives Act definition of those "persons" subject to its jurisdiction did not include the Federal Government. Although the Explosives Act was repealed, Congress did not express an intention to eliminate the exception from regulation of Federal Government shipments for national security purposes. When the HMTA was enacted, the Hazardous Materials Regulations (HMR) were reissued under that authority.

Despite the fact that the HMTA does not define "person" (under precepts of statutory law, the sovereign is generally not considered to be a person), the HMR continued to regulate Federal Government shipments, including packagings, when they involve a commercial enterprise or when moved by a commercial carrier. It has been the Department's longstanding position (although as can be seen, not predicated on a clear statutory basis) that the Federal Government is subject to the HMTA and HMR when it offers hazardous materials for transportation in commerce (by commercial carriers). Because the statutory authority has been somewhat unclear, however, RSPA has been circumspect about regulating commercial shipments of radioactive materials by the Federal Government. The legislation we will be proposing for reauthorization of the HMTA will include a definition of person which would resolve this uncertainty. The legislation would codify the Department's position that Federal Government shipments are covered by the HMR when they involve a commercial enterprise or when moved by a commercial carrier.

SENATOR ADAMS: DOE has requested an exemption from the NRC standard for its TRUPACT shipping cask after its original design encountered a number of serious problems meeting those standards. DOT regulations do not appear to provide for an exemption process. How is DOT handling this exemption request? What technical review process has been established? Is NRC being consulted?

ANSWER: On February 27, 1987, the Department of Energy (DOE) filed a petition for rulemaking with DOT's Research and Special Programs Administration (RSPA) seeking approval for a new type of packaging for transport of transuranic wastes. DOE did not petition DOT for an exemption under Section 107 of the HMTA.

After reviewing the DOE petition, we wrote to DOE on March 20, 1987, requesting clarification of, and justification for, the petition which appeared to be broad in scope, ambiguous and duplicative of other regulations. We also requested any additional relevant supportive information necessary to evaluate the petition. These concerns were also conveyed at an April 8, 1987 meeting requested by DOE. DOE, in turn, explained that its petition appeared broader than DOE intended and indicated that many supporting background studies would be provided to RSPA. On April 14, 1987, we further advised DOE by letter that its rulemaking petition must set forth the text or substance of its rulemaking proposal.

No substantive technical review process for the petition has been initiated and will not be until DOE responds to our letter. If and when we have received DOE's revised petition, we will fully consult with NRC and seek their technical input into our deliberations and possible rulemaking proceedings. Be assured that if the DOE petition is accepted for rulemaking, a thorough and complete public record will be developed, including the holding of public meetings and hearings as determined necessary.

SENATOR ADAMS: Please provide a memorandum describing the statutory basis and authority for 49 CFR 173.7(b) as applicable to both DOD and DOE.

ANSWER: The original statutory basis for 49 CFR 173.7(b) was Pub. L. 86-710, 74 Stat. 809 (September 6, 1960) (the Explosives Act) which added subsection (c) to 18 U.S.C. § 832. Section 832(c) provided that any shipment of radioactive materials made by or under the direction or supervision of the Atomic Energy Commission (AEC) or the Department of Defense which is escorted by personnel from those agencies, for purposes of national security, shall be exempt from the requirements of §§ 831-835 of title 18 and the rules of regulations prescribed thereunder. (The functions, powers and duties of the AEC were transferred to the Energy Research and Development Administration and later to the Department of Energy). The current statutory authority for 49 CFR 173.7(b) is Section 105 of the Hazardous Materials Transportation Act (HMTA), 49 App. U.S.C. § 1804, which authorizes the Secretary of Transportation to issue regulations for the safe transportation in commerce of hazardous materials.

The statutory history is somewhat confused. The Explosives Act definition of those "persons" subject to its jurisdiction did not include the Federal Government. Although the Explosives Act was repealed, Congress did not express an intention to eliminate the exception from regulation of Federal Government shipments for national security purposes. When the HMTA was enacted, the Hazardous Materials Regulations (HMR) were reissued under that authority. Despite the fact that the HMTA does not define "person" (under precepts of statutory law, the sovereign is generally not considered to be a person), the HMR continued to address governmental shipments by exceptions from the regulations shipments by the government for national security purposes. In the near future, the Department will be proposing the reauthorization of the HMTA and will include a definition of "person" which would resolve this uncertainty. By virtue of the definition, Federal Government shipments would be covered by the HMR when they involve a commercial enterprise or when moved by a commercial carrier. The legislation would codify the Department's longstanding position that the Federal government is subject to the HMTA and HMR when it is transporting materials in commerce.

SENATOR ADAMS: What steps and procedures does DOT take to assure that this exemption procedure is used only for extraordinary shipments that cannot be shipped under DOT regulations?

ANSWER: As explained in the response to question 3), radioactive materials shipments made by or under the direction or supervision of DOE or DOD, for the purpose of national security, are excepted (not exempted, which is a separate term of art under the HMTA) from the DOT regulations. However, both DOE and DOD work closely with DOT to assure that such shipments are safely packaged and transported in a manner equivalent to that required by DOT regulations. (For more detail see answer 3c)).

SENATOR ADAMS: What steps does DOT take to assure that these exempted shipments do not present a greater risk to the public than otherwise required by the Hazardous Materials Transportation Act?

ANSWER: As stated in response to question 3b), shipments of radioactive materials for national security purposes are excepted from the DOT regulations. However, DOT consults with DOE and DOD to ensure that such shipments are packaged and transported safely. For those shipments that are subject to the regulations, DOE or DOD, as the shipper, submits carrier-provided information to DOT on the routes used and must comply with all other applicable requirements of the Hazardous Materials Regulations. Both DOE and DOD are well-qualified to determine appropriate safety controls for their shipments, and in fact rely heavily on the Hazardous Materials Regulations.

SENATOR ADAMS: Are there any other shipments by federal agencies, such as NASA, which under contract to DOD or DOE or under their own authority, are exempt from any DOT HMTA regulations or have applied and been granted any exemptions from DOT HMTA regulations?

ANSWER: In addition to the DOD and DOE shipments excepted from the Department's Hazardous Materials Regulations (49 CFR 173.7(b)), there are exceptions for shipments of explosive samples of a limited quantity, when offered by and consigned to the Department of Treasury and placed in specially designed multi-unit assemblies before being overpacked (49 CFR 173.7(c)). This packaging must be capable of precluding a propagation of any explosive outside the packaging. The quantity of explosive is restricted to not more than one gram and the packaging is far in excess of the DOT packaging requirements for such a small quantity. There are other areas of partial regulatory relief granted to federal agencies such as the Department of Defense (DOD) and the National Aeronautics and Space Administration (NASA). This relief usually involves the waiver of DOT specification packaging requirements for certain munitions of war and rocket motors where the materials can be shipped under DOD or NASA procedures and provide a level of safety which exceeds that required by DOT.

Under Section 107 of the Hazardous Materials Transportation Act, the Secretary of Transportation has the authority to issue exemptions from the Hazardous Materials Regulations of Title 49, Code of Federal Regulations. In accordance with this authority, an exemption may only be issued when a level of safety has been achieved which is at least equal to or exceeds that level of safety which would be required in the absence of such exemption or which would be consistent with the public interest. Over the years, the Department has received applications for exemptions from federal agencies which have the need to transport or to offer to commerical carriers for transport certain hazardous materials. Applications for exemption have been issued to federal agencies such as the Environmental Protection Agency, DOD, NASA, Department of Energy and Department of Interior. These exemptions usually authorize the use of packgings which are not provided by the current DOT regulations but have greater integrity and strength than the prescribed packagings. For example, an exemption was issued to NASA authorizing the movement of Space Shuttle Orbiters containing various hazardous materials not packaged in accordance with the Department's packaging requirements but which, when placed within the Orbiters, provided a level of safety that exceeded teh prescribed requirements. Another exemption was issued to the DOD authorizing the packaging of the air launched cruise missile which contains a flammable liquid. The non-specification container, which acts as the fuel tank for the flammable liquid, was intergral part of the missile and exceeded the packaging requirements prescribed for such flammable liquids.

SENATOR ADAMS: In establishing highway routes, what risk assessment does DOT complete and what steps does DOT take to assure that there state and local emergency response capability along those routes?

ANSWER: As a result of rulemaking under Docket HM-164, section 49 CFR 177.825 was promulgated to require that carriers, in selecting routes for transporting radioactive materials, consider information, such as accident rates, transit time, population density, time of day and day of the week, etc. Additionally, for highway-route-controlled quantities of radioactive materials, carriers must use "preferred routes", typically the interstate highway system. During the rulemaking process DOT addressed the risks of using the interstate or limited access highway system for the transportation of large quantities of radioactive materials. Based on available risk assessments, DOT concluded that the use of interstate highways would ensure the safe routing of radioactive materials shipments. However, DOT recognizes that state and local officials are in the best position to judge local conditions, emergency response capabilities, and other extenuating circumstances. Accordingly, section 177.825 currently provides that a State routing agency may designate an alternate preferred route in lieu of an interstate highway. To assist a State routing agency in determining an acceptable alternate route, DOT has developed a guidance document entitled, "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials". This guidance document provides the methodology for developing alternate routes.

SENATOR ADAMS: What analyses or risk assessments has DOT done concerning rail routing of hazardous materials and what if any steps have been taken to prepare requirements for such routings?

ANSWER: The Department has conducted a series of risk assessments on the rail routing of hazardous materials, ranging in scope from the broad policy implications associated with alterations in existing rail flow patterns to avoid populated areas, to rail routing alternatives for spent fuel shipments from nuclear power plants.

In general, these studies found that, from a national point of view, rerouting would not result in significant reductions in the expected number of casualties due to hazardous materials incidents, or in reduced radiation exposure levels from rail shipments of radioactive materials. This occurs because, on average, the advantage of reduced population exposure is counteracted by the disadvantages of increased circuity in rail shipping patterns and the diversion of some hazardous materials rail traffic to lower quality track.

Since the last of these studies was completed in mid-1982, there have occurred extensive changes in the railroad industry, as reflected by company mergers, line abandonments and the appearance of specialized regional railroads. In recognition of these changes, the Department is currently conducting a study to develop comprehensive information on rail transportation patterns of hazardous chemical and petroleum products, based on data most recently available (ICC rail waybill sample data). The feasibility of linking this information to a rail network routing model will also be examined. These were critical elements in any risk assessment of rail routing alternatives. A draft of this study is expected to be available for review by December 1987.

SENATOR ADAMS: Please describe the manner in which DOT regulations address occupational radiation exposure from the transport of radioactive shipments, the dose levels allowed under those regulations, and any radiation risk assessment the DOT has done to support or justify those risk levels.

ANSWER: DOT addresses occupational radiation exposure by regulating the maximum dose rate that is permissable at the surface of a package or vehicle containing radioactive materials, by limiting the total transportation index (TI) that may be transported in a shipment, and by specifying separation distances for packages containing radioactive materials. Package and vehicle dose rates, total TI and separation distances limit the rate at which an individual will receive a dose, but they do not limit the total dose. However, exposed individuals are generally not considered occupationally exposed. The permissable dose rates are based on international standards that have been developed through DOT participation.

DOT does regulate the total dose for certain exemption holders who have been granted relief from the total TI requirement. In these cases, the carrier must establish a radiation safety program that meets the requirements of the Occupational Safety and Health Administration and limits radiation exposure to occupationally exposed individuals in a manner similar to the NRC provisions in 10 CFR Part 20. DOT's experience over the period of about 7 years for the exemptions indicates that some "radiation transport workers" may be exposed at a significant level. DOT and international bodies are carefully evaluating this situation and will, if appropriate, better define criteria to control the annual radiation dose to transport workers.

SENATOR DANFORTH: DOE tells me that dedicated trains are not necessary for the safe transportation of highly radioactive materials such as the TMI wastes because it believes in the integrity of the containers that are used. Most railroads tell me they prefer to carry highly radioactive shipments separately. If one of the DOE's main criteria in selecting a route is avoiding switching, how can the use of mixed trains be justified? Isn't this contradictory? Should DOE's position be reassessed?

ANSWER: DOT believes that, so long as our regulations are followed, both dedicated trains and mixed trains transporting radioactive materials (RAM) provide a sufficiently high level of safety to protect the public. DOT (Federal Railroad Administration (FRA) and RSPA) has safety regulations for RAM transportation which shippers and carriers must follow. However, so long as a shipper or carrier follows the regulations, the shipper/carrier can choose the route and the transportation mode. The shipper may also use dedicated or mixed trains. Rail routes for DOE radioactive shipments are chosen by DOE in consultation with rail carriers, consistent with the safety requirements of the FRA and RSPA. DOT was not privy to the rationale applied by DOE in selecting use of dedicated trains or in choosing the route for the Three Mile Island shipments. We did work with DOE to assure compliance with our regulations.

Among the regulations affecting a DOE RAM shipment is a prohibition on the placement of a car placarded RADIOACTIVE next to rail cars placarded for hazards of other classes, and a requirement to avoid delays to the extent practicable. To the extent that the amount of switching in any proposed shipment would cause delay, DOE must act to avoid it. This is the case regardless of whether the train is dedicated or mixed. As long as the delays will not be of such duration as to adversely affect safety, DOE may properly view delay as but one element in making its determination of how to move its materials.

DOT has not required dedicated trains because we believe that the RAM shipments can be safely transported as long as DOE and the railroads comply with the regulations for packagings, placement of the RAM rail cars, and other security and safety measures.

SENATOR DANFORTH: Could you describe your agency's responsibilities with regard to the TMI shipments and walk us through the processes your agency has been involved in to date? Please include a description of your interaction with the other two agencies.

ANSWER: The Department is responsible for the safe transportation in commerce of all radioactive materials, including the TMI radioactive waste shipments. Toward this end the Department, through the Research and Special Programs Administration (RSPA) and the Federal Railroad Administration (FRA), has promulgated a comprehensive system of regulations encompassing package design, fabrication, labeling and marking, cargo segregation and separation, and other regulations that ensure the integrity of the packaging during transport. These regulations are directed toward minimizing radiation exposure, reducing the possibility of damage to the packaging during transport, and preventing the release of the radioactive materials should an accident occur.

As the shipper for the TMI shipments, the Department of Energy (DOE) examines proposed routes before a nuclear waste shipment is scheduled and advises the FRA of the selected route. Before the shipment and routinely thereafter, the FRA inspects the entire route for compliance with federal track and signal requirements. FRA inspectors conduct inspections along the route to ensure that train crews are complying with the operating rules. Each nuclear cask car is inspected at points of origin and destination by FRA's motive power and equipment inspectors to assure compliance with the FRA's Safety Appliance and Freight Car Safety Standards, and by FRA's and/or RSPA's hazardous materials inspectors to assure compliance with the Department's placarding, billing, crew notification, and train placement requirements.

DOT and the Nuclear Regulatory Commission (NRC) have overlapping regulatory responsibilities. Basically, DOT has the responsibility for developing overall safety standards covering the mechanical condition of carrier equipment, qualifications of carrier personnel, loading and unloading, handling, storage, and vehicle placarding requirements. DOT also has responsibility for developing safety standards for classifying radioactive materials, for the design specifications and performance requirements of packages for quantities of radioactive materials, other than fissile materials not exceeding Type A limits, and for low specific activity materials. The NRC is responsible for regulating safety in receipt, possession, use, and transfer of byproduct, source, and special nuclear materials. Also, NRC reviews and approves package design for fissile materials and for other radioactive materials exceeding Type A limits. DOT has "incorporated by reference" the NRC packaging standards for such materials.

In carrying out many of their mission responsibilities, DOE is a "shipper" subject to DOT and NRC rules and regulations. For example, the Nuclear Waste Policy Act (NWPA) of 1982 established a national policy for the safe storage and disposal of spent fuel and high-level waste. The NWPA assigns to DOE the responsibility for providing for the actual transportation, and requires that such transportation be subject to the regulations of DOT. In addition to these NWPA responsibilities, DOE carries out extensive programs under the Atomic Energy Act of 1954, as amended, and produces nuclear materials and wastes both at its research facilities, such as Brookhaven National Laboratory in New York, and at defense facilities, such as the Hanford Site in Washington.

SENATOR DANFORTH: DOE justifies moving rail shipments of nuclear materials through densely populated areas by setting criteria that give the greatest weight to choosing the shortest route and the best maintained tracks. I have two questions about this: Is DOE the appropriate agency for setting such criteria? How would you react to the suggestion that there should be rail routing guidelines which give more attention to avoiding highly populated areas, similar to those used for highway transportation of hazardous materials?

ANSWER: With respect to routing, DOT is the appropriate agency to issue routing regulations. DOE, as the shipper, is responsible along with its carriers for selecting routes so as to minimize the total risk associated with a shipment. It is then appropriate for a shipper (DOE) to select, within the framework set by the regulator (DOT), the actual route. Under our regulations DOE may consider a variety of factors, including the quality and availability of alternate routes, and the effects of time in transit on normal exposure to transport personnel and the public.

DOT has not established routing guidelines for rail shipments of radioactive materials similar to those in effect for highway shipments. While this issue has been and is the subject of continuing examination by the Department, we do not believe that there are sufficient benefits to be derived to justify imposition of rail routing restrictions at this time.

In the case of highway transportation, the Department did impose routing restrictions in order to further reduce the already low risk, by requiring the use of the Interstate highway system or State designated alternatives. Three differences between the rail and highway networks and operating practices work against similar rail restrictions.

First, the rail network is relatively more sparse than the highway network reducing the availability of routing alternatives. In addition, most of the network is designed to serve, and passes within or in close proximity to, major population centers. Many cities were located, grew and prospered precisely because of their access to rail service.

Second, rail routes are classified, and operational parameters such as speed are restricted, according to track quality and maintenance. These restrictions act to reduce the probability and severity of accidents on poor quality track, so that the safety record remains comparable, across network segments.

Finally, it is more likely that trained and experienced emergency response personnel will be available in communities adjacent to and familiar with rail freight services, in the unlikely event that an incident occurs.

In order to continue this excellent safety record, the Department is expanding efforts with the states to enhance the enforcement of existing nuclear transportation safety regulations. DOT's Motor Carrier Safety Assistance Program (MCSAP), Cooperative Hazardous Materials Enforcement Development Program (COHMED), and our annual series of regional nuclear transportation workshops (TRANSRAM) all are addressed at developing improved understanding of the existing safety standards.

SENATOR KASTEN: Administrator Douglass, I think the responsibilities of RSPA are of great concern to Members of Congress and the subject of often very emotional involvement by the citizens of this country. I recognize the need for fiscal awareness on the part of all of us as well. But I would appreciate your further views on the level of funding for your administration given the tasks assigned to you.

I am never looking to just throw money at problems, but I have serious reservations as to whether we are realistically providing the kind of funding that should be allocated to truly address the myriad problems over which you have responsibility. Thus, my first question:

Are we allocating enough resources in order to move toward resolution of problems in a time frame that you feel acceptable?

ANSWER: We have studied the recommendations of the Congressional Committees, the Report of the Office of Technology Assessment (OTA), and Secretary Dole's Safety Task Force and have structured our program around the most critical problem areas. We are satisfied that we have requested sufficient funds and personnel to address these "myriad problems" in a responsive and efficient manner. Our high priority programs focus on the areas of rulemaking, enforcement, emergency response training, and hazardous materials information and analysis.

In the rulemaking area, we are upgrading and sharpening our regulations to make them more performance-oriented and responsive to continuing advancements in technology. Rulemaking actions sometimes take a while before there are tangible effects, but we are satisfied with our progress in classification of hazards, improved packaging standards, and improved hazards communication. We are also expanding our Federal/state outreach program to assist the states in developing their hazardous materials enforcement and emergency response capabilities over the next several years. The Secretary has requested $60 million for the states for hazardous materials and motor carrier enforcement. We are working with the states to develop training modules. This Federal/state partnership is a key to improved hazardous materials transportation reporting.

RSPA conducted a number of seminars, workshops and regional meetings with state and local governments to encourage and assist them in developing their hazardous materials enforcement and emergency response capabilities. These meetings allow us to exchange regulatory and enforcement information as well as identify problems that need to be resolved. We are undertaking a comprehensive review of our data collection. We want to assure adequate trend analysis for R&D and regulatory purposes.

We have taken steps to broaden the capability and flexibility of the Hazardous Materials Information System (HMIS) which should have far-reaching effects in the future. These system enhancements will support our decisionmaking and policy development process, enable us to do specialized statistical reports and trend analyses, and make the HMIS more accessible to other Federal, state, and local potential users.

We will continue to monitor and adapt our program to changing needs required for the safe transportation of hazardous materials while taking into account advancing technologies and economic growth and will request additional resources as we perceive the need.

SENATOR KASTEN: Could you handle, with the staff you now have, the review of local or State regulations in this area on a pre-implementation basis in order to give us a better handle on the consistency of regulation situation that is so bothersome to just about everyone who will appear before us?

ANSWER: RSPA has requested additional personnel in FY 88 to work with State legislative and administrative bodies to address areas in existing laws and regulations which could be strengthened and to help preclude, through understanding of the Federal regulatory program, State and local regulations which may be inconsistent. Through the Cooperative Hazardous Materials Enforcement Development program and the Commercial Vehicle Safety Alliance, RSPA will informally survey the States as to means of adoption of Federal regulation, enforcement authority, and penalty provisions.

The Department is proposing legislation which will provide a statutory basis for the Department to determine the validity of State or political subdivision requirements which may conflict with the Hazardous Materials Transportation Act (HMTA) or the Hazardous Materials Regulations (HMR). This preemption determination process would replace the current advisory opinion process provided by regulation. The proposed legislation would preempt non-Federal requirements when compliance with both a non-Federal and the Federal requirement is not possible; when operation of a non-Federal requirement serves as an impediment to achievement of the HMTA or HMR; or when a non-Federal requirement addresses certain subjects under exclusive Federal jurisdiction.

The legislation would retain the existing provision for a waiver of preemption if the Secretary determines that the non-Federal requirement provides an equal or greater level of protection to the public than a Federal requirement and does not unreasonably burden commerce. The legislation also provides for judicial review of the Department's preemption determinations in the United States district courts.

The Department's proposed legislation will strengthen the Federal preemption provision and clarify State and local roles in the transportation of hazardous materials, primarily in the area of highway routing. We expect the effect of this legislation will be to provide greater pre-implementation guidance to States in developing hazardous materials programs.

SENATOR KASTEN: What progress have you made in developing the regulations affecting driver licensing of hazardous materials drivers?

ANSWER: The Federal Highway Administration is developing regulations that will establish minimum Federal Standards for testing and licensing commercial vehicle operators as required by the Commercial Motor Vehicle Safety Act of 1986. On June 1, 1987, the FHWA published in the Federal Register changes to 49 CFR Parts 383-391 to implement the requirements of the Act. The FHWA, with this rulemaking, is requiring that operators of commercial motor vehicles possess only a single driver's license; is establishing requirements for a driver to notify his/her home State and employer of driving violations and license suspensions; and is prohibiting employers from using a driver whose license has been suspended. The FHWA is also requesting comments on a possible expansion of the rule's applicability to include drivers of commercial motor vehicles not now subject to this final rule (e.g., to drivers of vehicles carrying less than a placarded amount of hazardous materials), and to further define the term "serious traffic violations," a criterion for the disqualification of drivers. These actions are being taken to improve the safe operation of commercial motor vehicles, and to help reduce truck and bus accidents and injuries by disqualifying unsafe drivers who operate commercial motor vehicles. The Secretary of Transportation (the Secretary) has delegated responsibility for implementation of the Act to the FHWA.

RSPA is fully coordinating with FHWA those aspects of the Commercial Motor Vehicle Safety Act that relate to the safe transportation of Hazardous Materials.

SENATOR KASTEN: What is your assessment of the effectiveness of the new Hazardous Materials Clearinghouse under the Department of Transportation (DOT) and Federal Emergency Management Agency (FEMA)?

ANSWER: The Hazardous Materials Information Exchange (HMIX) is proving to be an effective means for disseminating information to state and local officials and private/public interest groups. We are constantly adding information to the system, promoting its use, and accessing the users' needs.

The HMIX is designed to provide state, local, and private sector officials with up-to-date information on Federal/State/Private Hazardous Materials Training courses, upcoming events and meetings, recent legislation and regulations, planning techniques, and experiences resulting from actual responses and exercises. The information can be accessed from any location by use of a personal computer, modem, and any communication software, or by a toll free telephone call by which the inquirer can obtain personal assistance in obtaining information.

Registration and an identification number may be obtained by telephone inquiry, after which one may access the data bank directly from any location by computer. There are currently 680 registered users of the electronic bulletin board (computer access). An average of 6 to 10 new users are registered each day and the number is steadily increasing. There are approximately 14 to 15 telephone calls received per day on the toll-free number. Callers are primarily requesting information about costs and receiving guidance on the use of the board. Registered users and callers are local fire department and law enforcement personnel (39%), private/public associations and private consulting firms (32%), other state government officials (15%), and Federal government personnel (14%).

A briefing session was recently held for various public/private sector interest groups to encourage their participation. Pamphlets have been distributed nationwide to state fire and law enforcement personnel and briefing sessions are to be scheduled throughout the year.

To be truly successful, however, user input is essential. Our goal is to provide the users with a system which can help them to take an active role in promoting the dissemination and exchange of information among the individuals involved in the area of hazardous materials. As the public becomes more aware of the system and begin supplying data the viability should become apparent.

SENATOR KASTEN: Can you give us a better idea what you will be recommending in your legislation with regard to routing and regulatory uniformity?

ANSWER: RSPA has reviewed the Hazardous Materials Transportation Act in light of 12 years' experience and has determined that certain improvements are necessary. The Department is proposing legislation to strengthen Federal preemption in those areas that should be exclusively Federal, while encouraging full state participation in highway routing decisions. The legislation would also enhance the existing process for resolving Federal-State conflicts and conflicts between or among States in the interests of national uniformity. Further, the legislation will authorize the Department to require "permits" for carriers of those hazardous materials which are of great concern to the public, such as high level spent fuel.

SENATOR KASTEN: Would RSPA be the most appropriate center of responsibility for developing standards and regulations affecting emergency response training?

ANSWER: FEMA is the most appropriate agency for developing standards and regulations for emergency response training. Emergency response involves both fixed facilities and transportation vehicles. RSPA is responsible for regulating only the transportation of hazardous materials.

We have entered into a Memorandum of Understanding to clarify our roles and identify areas where both agencies can collaborate in developing a strong emergency management program.

Other agencies should be involved since emergency response is of interest to the missions of agencies such as DOT, DOL, DOI, EPA, DOD and PHS. The National Response Team (NRT), through its 14 member agencies, is implementing plans for coordinating Federal efforts designed to increase emergency response capabilities at state and local levels.

As evidenced by its MOU with FEMA, RSPA is working with other agencies to clarify roles and responsibilities regarding emergency response, to increase coordination and communication in this area, and to assess the emergency response needs of state and local jurisdictions. We have jointly sponsored workshops with FEMA and EPA on emergency response, participated in the NRT, and sought to increase the coordination and attention given to emergency response to hazardous materials transportation accidents. In 1986, RSPA and FEMA completed a Congressionally mandated study entitled Hazardous Materials Training. We have established a Hazardous Materials Information Exchange to provide emergency response planning and training information to State and local planners and the hazardous materials industry.

SENATOR KASTEN: What is your assessment of existing emergency response training for state and local governments? What improvements are you seeking in this area?

ANSWER: Significant hazardous materials emergency response training is taking place nationwide; however, additional training is needed to reach greater numbers of target audiences, particularly responders in remote, smaller communities. State sponsored training most often falls under the purview of the State Fire Training Agency, State Law Enforcement Academy, or lead State Emergency Preparedness Agency. Local training is offered less frequently. State governments provide the greatest number of courses and students annually, and local governments provide the least. Federal programs offer fewer courses, but those offered are usually more in-depth and thorough.

Large segments of the preparedness and response population, especially the small rural and volunteer fire departments, emergency medical personnel, and government officials, are not receiving adequate training. The DOT/FEMA report found most training being offered covers basic skills and knowledge, and, is not targeted to specific job requirements. Taking into account personnel turnover, even the basic training is not sufficiently available on a timely basis to all those entering the system. When considering the diversity and hazards of the materials being transported and their potential for creating complex incidents, there appears to be inadequate training in the technical areas, and in providing refresher or advanced courses. Presently, there is little uniformity in content and the quality varies a great deal. There is little cross training among response groups; therefore, it may not be coordinated. Instructor training standards and course effectiveness evaluations are not available.

Through Federal, state, private sector, and local cooperation, the following improvements are being considered in coordination with other Federal agencies, i.e., FEMA, EPA, DOD, DOL, USPHS (CDC & ATSDR), and the NRT.

- Dissemination of hazardous materials and response information and training schedules through a variety of systems such as the DOT/FEMA Hazardous Materials Information Exchange and the current DOT program for distribution of hazardous materials information packages and guidance.
- Conduct further analysis of training needs and job performance requirements for guidance assessing existing programs and identifying new needs, and to promote uniform and quality training.
- De-centralization of training to state/local governments such as that done by the EPA/FEMA plan for Integration of Training Grants with the SARA Title III Activities. In that case, the State Emergency Response Commissions (SERCs), designated by Governors under provisions of Title III, will have the responsibility for directing training to high hazard or priority areas jurisdictions.

- Obtain and make available additional Federal/State grants to broaden training to reach more responders in basic training and to provide specialized/advanced and refresher training.
- Developing centrally prepared training packages and train trainers in the use of these packages to ensure greater uniformity and quality of training.
- Utilization of more effective training methods, including those that will allow the participants to remain on or near the job, such as simulations, video tapes, table top exercises and packaged self study, in addition to or in place of, the traditional classroom setting such as lecture and assembled groups.

SENATOR KASTEN: A grant program has been proposed to assist State and local governments to meet their emergency response needs. Is it necessary to give further study to these needs before we consider some kind of funding initiative? Do we have sufficient information to take such a step?

How much Federal support, in terms of money, is needed to create a very good level of emergency response capability nationwide?

ANSWER: The RSPA and FEMA did a study assessing, to the extent possible, the amount of money being spent by the Federal, State and local governments and the private sector for training and planning for emergency response to hazardous materials transportation accidents. Basically, it was determined that over $16,000,000 a year is being spent but that its use needed to be better coordinated.

The OTA also did a study recognizing the DOT/FEMA study and recommended that the Federal government spend five to seven million dollars more on training.

The National Response Team, made up of EPA, Coast Guard, DOL, FEMA, RSPA and others, has concluded that training firefighters for hazardous materials transportation emergency response is similar if not the same as training for response at fixed facilities.

In 1986, Congress passed the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 305(a)(2) of the Act authorizes appropriations for training grants to States for hazardous materials emergency response in the amount of $5,000,000. FEMA is to administer the grant program.

DOT and FEMA entered into an MOU (See Senator Adams' question #3) which designates FEMA as the primary agency for emergency response training. DOT and FEMA will work closely together to enhance training programs for hazardous materials transportation emergency response.

Title III -- Emergency Planning and Community Right-to-Know of SARA requires each State to establish State Emergency Response Commissions (SERCs). The SERCs are to do planning and assess training needs for hazardous materials emergency response.

In light of the above, I believe it is important that funds for training authorized in Section 305(a)(2) of SARA be appropriated, that the SERCs be established, and that after the SERCs have done the planning required that an additional analysis of training needs be conducted.

We do not believe the basis exists for establishment of a large fund (such as $100-200 million) for training, planning and equipment.

SENATOR KASTEN: How manageable are current regulations? Do you see evidence of confusion at the state and local level, or are the workshops to which DOT refers providing adequate clarification?

ANSWER: Rules and regulations governing the transport of radioactive materials are currently administered by two governmental agencies, the Department of Transportation (DOT) under the Hazardous Materials Transportation Act of 1974, and the Nuclear Regulatory Commission (NRC) under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended. These Acts have given the two agencies some overlapping authority. To preclude the confusion that might result from the overlapping authority and to prevent potential duplication of regulatory activities, the DOT and the NRC have signed a Memorandum of Understanding (MOU) that specifically delineates the areas of responsibilities for the two agencies. Through meetings and other means of constant communication, the DOT and the NRC ensure that their regulatory activities are conducted in accordance with the MOU.

To the extent that confusion exists as a result of the states and local governments being unsure of their roles vis-a-vis the Department, we have moved to clear up the confusion in our proposed reauthorization of the Hazardous Materials Transportation Act. The bill is designed to articulate clearly those areas of hazardous materials transportation that are clearly Federal (e.g., hazard communication and container manufacturing) and those that allow state and local action (i.e., highway routing).

RSPA is further addressing these matters through its outreach programs, including the regional nuclear transportation workshops. These workshops, which are supported by other Federal agencies including the NRC, provide information to state and local officials about the Federal transportation regulations. DOT provides information on the Federal roles in regulating the transport of radioactive materials, including discussion of the DOT/NRC MOU. Additionally, information on state and local participation in such areas as enforcement, emergency response, and route designation, provides improved knowledge of respective roles in radioactive materials transportation safety activities. To date RSPA has conducted three regional workshops and expects to conduct two more before the end of the fiscal year. We believe they have been very successful in alleviating confusion concerning the certain aspects of the radioactive materials transportation regulations and their application.

RSPA provides training for state enforcement personnel pertaining to inspection for compliance with, and enforcement of requirements applicable to the transportation of radioactive materials. In 1985 and 1986, 104 enforcement personnel were provided detailed training. Also, we train state and selected industry personnel concerning requirements for special materials such as radiopharmaceuticals. RSPA develops and provides training materials and job aids such as inspection guides for handling radioactive packages, inspection of spent nuclear fuel shipments and guides for handling radioactive materials packages in cargo terminals.

SENATOR KASTEN: Isn't it cumbersome to deal in Memorandums of Understanding to coordinate agency responsibilities? Wouldn't it be preferable for all agencies to be subject to one set of regulations. It seems to me that public anxiety about nuclear shipments is heightened because they aren't confident that safety standards are uniformly high.

ANSWER: There are overlapping safety responsibilities between the Nuclear Regulatory Commission (NRC) and the Department of Transportation (DOT), which reflect the differing statutory mandates foci of the agencies. The Department of Transportation entered into a Memorandum of Understanding (MOU) with NRC in 1979 to delineate the respective regulatory responsibilities of the two agencies relative to safety in transporting radioactive materials. The purpose of the MOU between the Department of Energy and DOT was to specify and clarify the respective roles and responsibilities in implementing the Nuclear Waste Policy Act of 1982. We have found the execution of MOU's to result in increased cooperation and more efficient use of agency resources. They are an effective means of carrying out our specific statutory missions.

The excellent safety record involving the transportation of radioactive materials is a good indication that the present system of regulation is effective and that major programmatic changes are not necessary. We agree with the finding by the Office of Technology Assessment in their 1986 report on hazardous materials transportation stating that "...performance standards yield spent fuel shipping cask design specifications that provide an extremely high level of public protection...".

SENATOR KASTEN: I am alarmed to realize that the DOE sometimes uses casks or containers that the NRC earlier rejected. How can this be justified?

ANSWER: Under 49 CFR 173.7(d) DOE is permitted to self-certify packages made by or under the direction of DOE provided that the packages are evaluated against standards equivalent to those specified in 10 CFR Part 71 (USNRC). As part of its self-certification process, DOE has requested NRC review of package designs in accordance with design and performance criteria specified in 10 CFR Part 71. Following preliminary staff review, the NRC forwarded to DOE comments on its reviews or requests for additional and clarifying information. In some instances, DOE withdrew its requests without further submissions to the NRC. It is our understanding that the NRC has never made a formal determination that any of DOE's packages have failed to meet the design and performance criteria of 10 CFR Part 71.

In May 1985, during a meeting between RSPA, DOE, and NRC personnel, RSPA was advised of unresolved questions regarding the use of one of DOE's shipping casks. After its evaluation of the DOE package design, the NRC had substantial reservations about the standards of equivalence DOE used as a basis for its certification. RSPA acted quickly to ensure that this particular DOE package design would not be used until all questions had been resolved. Subsequent to RSPA's action, DOE began an evaluation of its package review program. This action resulted in the consolidation and centralization of its package certification process. Since that time DOE has conducted a systematic review of all certificates it had issued. DOE has removed a number of packages from service. Except for one that is scheduled to be retired this month, all of the DOE-certified packages that had been questioned by NRC have been removed from service.

SENATOR KASTEN: Inspection and enforcement staffing seems to be the last priority, a fact that concerns me. Does your agency honestly have the staffing and financial resources to get the job done? What would be a better level?

ANSWER: RSPA exercises primary inspection and enforcement jurisdiction over container manufacturers, excluding those who manufacture highway cargo tanks and rail tank cars. RSPA conducts facility inspections of companies who offer hazardous materials, including radioactive materials, for transportation, with emphasis on the packaging. RSPA inspects packages of hazardous materials moving within the transportation system, particularly at air freight terminals, ports, and other waterfront facilities. RSPA does not consider staffing for inspection and enforcement to be its last priority. In FY 1985, we requested additional enforcement resources and Congress rejected our request. We requested, and Congress authorized, an increase of enforcement resources in FY 1986 and FY 1987. We also expect authorization for one additional inspection position requested for FY 1988. Although RSPA's inspection staff is small, we believe that by sound planning, based on the assessment of data we compile, as well as by seeking inspectors with experience in key areas, we can expand our coverage and enhance our ability to monitor activities in the areas subject to our enforcement efforts. To that end, we also work closely with other modal administrations in coordinating inspection activity, and conduct joint inspections with them. It should be noted that RSPA's inspection staff is located in Washington. We are currently studying the feasibility of establishing several field offices as a means to increase the efficiency and effectiveness of our inspection and enforcement program.

Senator EXON. Thank you very much, Ms. Douglass. We appreciate your comments.

Previous testimony has indicated that there is a great concern in this whole area, and we have to do more. I think that from your prepared statement and the remarks that you have made this morning you agree that we have to do more, because this problem seems to be coming down on us. Maybe the problem was not fully assessed in its infancy, but it seems to me that things are beginning to catch up with us now.

Generally speaking, I would say that the previous testimony that we have had indicates that while we are lacking in many areas, the rural areas, the vast expanses of America where this hazardous material goes through are probably the areas where we are the worst off from the standpoint of recognizing what the problem is with an accident, the sparsely settled areas that rely primarily on the great volunteer firefighting forces that we have that are not fulltime as we have in the larger cities.

Would you generally agree that, while we cannot let down our focus on any areas of the United States, the rural areas probably are the ones that need the most concentrated assistance, money and otherwise, for help for training?

Ms. DOUGLASS. I would say that there are two things that we need to look at, and one is where the most hazardous materials are being transported. We do have a chart.

Senator EXON. A chart is always helpful for understanding.

Ms. DOUGLASS. As you can see, hazardous materials are being transported through the rural areas and, of course, we do need to have effective emergency response in those areas. There is no doubt about that.

You also have in front of you another chart that shows basically where the incidents occurred in 1985.

Senator EXON. Is that this colored chart?

Ms. DOUGLASS. Yes, with the yellow, the red and the blue.

Senator EXON. Now, explain this chart that you just put up. It looks like there is an awful lot of red on that chart. Red ink scares us up here.

Ms. DOUGLASS. Well, there are over 250,000 shipments a day of hazardous materials in the country, and they are generally along these routes.

You also have a chart of the interstate system in front of you, and you can see that those red lines follow the interstate generally. There are a few other off-interstate areas that do have red lines.

If you look at this chart of incidents, you will find that in some of the areas such as in Texas where there are a lot of hazardous materials being manufactured, there are often times more incidents. So I think we need to concentrate on both the urban areas and the rural areas.

I think the way to do that is through good State planning. I noticed that Title III of the Super Fund Bill this year, Title III did set up planning commissions for each state and is requiring each state to do planning for hazardous materials accidents.

I would hope that the states would do planning for transportation accidents as well as fixed facility accidents. I think it is also essential that through this planning we share our resources and that we coordinate our efforts. This is especially true in the rural areas because I do not think that every city or town in this country can afford to buy all the HAZMAT equipment or maintain a full-time emergency response team. I do not think it is possible.

Another chart that you have in front of you is an emergency response team chart, and this is a set of teams that are——

Senator EXON. Now, wait a minute. Which one is that? That is this one?

Ms. DOUGLASS. Yes. These teams are fully sponsored by the Chemical Manufacturers Association and the chemical industry. The teams respond to accidents involving their chemicals.

The point of this chart is that there is a great deal of equipment and expertise already in existence. I think it is absolutely essential that the State and local planners work with the industry to share this equipment and to get expertise and advice so that we do not have a lot of duplicative spending. It would not make sense, and we cannot afford to do it as a country.

I think it is possible, though, to do good regional, State and local planning and to work out some of these problems.

Senator EXON. Let me ask this question. You said on these emergency response locations, those are emergency response for specific chemicals; is that right?

Ms. DOUGLASS. Right.

Senator EXON. How many on this chart would be nuclear expertise? Any?

Ms. DOUGLASS. This chart does not have any nuclear.

Senator EXON. No nuclear at all.

Ms. DOUGLASS. No.

Senator EXON. So this is all just regular standard chemicals; is that right?

Ms. DOUGLASS. Some of them are very hazardous.

Senator EXON. No, I do not mean they are not hazardous, but I mean nonnuclear problem.

Ms. DOUGLASS. Right.

Senator EXON. Now, are most of those, did you say, sponsored by the manufacturers of the chemical?

Ms. DOUGLASS. Yes, I am sure the CMA will want to tell you about it themselves, but the way I understand it works, for example, is that you have chemical company X, which belongs to CHEMNET. Now, a trucker carrying X's chemicals is going along and has an accident in, let us say, Kansas City.

So the firemen call a number that is in the Emergency Response Guidebook.

Senator EXON. In this book, right?

Ms. DOUGLASS. Yes, and it is on every page in this book. They call CHEMNET, which is a toll free telephone number manned 24 hours a day by the Chemical Manufacturers Association.

The Chemical Manufacturers Association then calls the company whose chemical was involved in the accident and gets permission to activate the CHEMNET emergency response teams. If they activate CHEMNET, then CMA will look up Kansas City and get the closest team out there immediately.

Senator EXON. I see. When we talk about how we are going to respond to these things in the future, both nuclear and hazardous chemicals in a separate category, and it is probably just, if not more, dangerous because of the volume of the material that we have moving on the roads, have we considered a State or area specialized response team that would be funded by Federal or State or local funds? In the case of a State, I was thinking of, for example, as in the capital city of a state to use an example. I guess some other place would be better in certain states.

In Nebraska, for example, if we would select a location—and let us use Lincoln, Nebraska, for example—has there been any thought given to a highly professionalized, highly mobile SWAT team type of concept where if an accident would happen any place in Nebraska that team would go by helicopter into a certain location as opposed to the training of local volunteer firemen across Nebraska?

Has there been any thought given to something along those lines?

Ms. DOUGLASS. Yes, and some states have done that; for example, the State of Tennessee. I do not know the situation with Nebraska. I will check on that.

Senator EXON. Well, give me the Tennessee example.

Ms. DOUGLASS. Tennessee, a number of years ago, broke the state into five sections. Three of the sections were around very large cities: Memphis, Nashville and Knoxville. The other two sections were in rural areas. They set up five emergency response teams. They fully equipped, trained and funded those teams, and maintained them on a 24 hour a day basis.

By the way, in setting up and funding those teams the state did work with the industry to get some funding equipment and advise.

Anyway, they set up those five teams, and since that time have expanded to, I believe nine teams. It is working very, very well.

Some other states have done that, too, and similar planning is going on in most states right now. I think that is the purpose of that Title III of Super Fund, to try to get all of the states to do some very good regional planning.

Senator EXON. How many states would you estimate have done what Tennessee has done; 10 percent of the states, 20 percent, 50 percent?

Ms. DOUGLASS. We would guess 10 percent.

Now, let me explain. We have been working with FEMA and just yesterday signed a memorandum of understanding clarifying who is responsible for what information. FEMA does have the primary responsibility in the emergency response area, including emergency response planning.

So FEMA would be more knowledgeable, but nonetheless DOT does have a great interest, and responsibility, certainly, in emergency response. So we have been actively involved over the last few years in working with FEMA and with the states.

Senator EXON. I might say that it looks to me like as if we are more or less in our infancy as to what we are going to do on this thing and how best to handle it. It would seem to me that by and large we are dealing with something that has so many different chemicals, so many different testing devices, so many different protective gear or suits, as I understand it.

In a previous hearing we were told that some chemicals can be adequately handled by people in a paper suit with a teflon coating of some kind, but that would be totally unacceptable for treating other types of chemicals.

So what I am saying is that maybe a highly mobile team, evidently what Tennessee has done, is something that we should be looking at from the standpoint of protecting the citizens and getting somebody out there who knows what they are doing on the scene.

We had testimony from Senator Wirth of Colorado that not too many months or years ago a hazardous materials shipment carrying torpedoes tipped over and strung torpedoes on a main intersection in the immediate area of Denver, and nobody knew whether the torpedoes were likely to go off. It paralyzed the town. As it turned out when they finally got the Navy out there, they knew how to handle them, but until they got the Navy there nobody knew what to do. I guess it was a tremendous problem.

Again, back to the situation in Colorado, had we had at that particular incident somebody who was trained in those kind of things, they could have gone to the area and probably straightened it out in a matter of minutes rather than hours, as it happened.

I am looking at this map, transportation incidents involving hazardous materials. Define an incident for me.

Ms. DOUGLASS. I will ask Al to define it.

Senator EXON. Al, what is an incident?

Mr. ROBERTS. I created the term, Senator, so I should be able to explain it.

Senator EXON. That does not necessarily follow, but we want you to try.

Mr. ROBERTS. We have a reporting system that requires any carrier involved in a discharge of any quantity of a hazardous material to issue a written report on that incident. Many of these incidents are not accidents. I do not think anybody would characterize them as accidents.

If a small quantity leaked through the bung closure of a drum or there was a minor discharge from a seam of a package, the carrier is required to report it to us.

Ms. DOUGLASS. And that is an incident?

Mr. ROBERTS. That is an incident.

Senator EXON. So what you are saying is that if one five-pound can, small drum, of a chemical that comes under the definition of hazardous materials would fall off a truck as it went around a corner, that is an incident?

Mr. ROBERTS. Yes, sir. Well, depending on the perception of it, it might even be an accident, but I mean even in a freight terminal——

Ms. DOUGLASS. It is an incident.

Mr. ROBERTS [continuing]. It is an incident. All accidents are included within the incident reporting system.

The reporting system does not delineate whether there was an injury, a fatality, or whether there was a certain sum of property damage, except for immediate reporting. Any unintentional release of a hazardous material during transportation in commerce, such as in a freight terminal, is a reportable incident.

Senator EXON. Maybe you know, but could you give me a guesstimate as to what percentage of these transportation incidents in 1985 were petroleum? I suspect a high percentage.

Mr. ROBERTS. A high percentage in terms of consequence. The fatalities and the injuries are a very, very high percentage, more than half. Statistically, petroleum transport has accounted for more than half of all the injuries and fatalities, fatalities in particular, over the past 17 years.

So petroleum would be a major problem as far as hazardous materials?

Mr. ROBERTS. Yes, sir. That comes back to an earlier point made by Ms. Douglass about the rural fire departments and response to chemical accidents. Training is necessary everywhere in the emergency response business for that very particular reason. A "go" team or a SWAT team, as you characterized it, may have to travel many miles to arrive at the scene of a petroleum accident. During the time they are traveling the problem may be gone. So you need immediate emergency response training for all these people to a certain level, even if it is only to mitigate the consequences of the accident.

Senator EXON. What about the training of firemen, who generally are the public servants that respond to this, both in the cities and in the rural areas where we depend on volunteer firemen? I would guess that most of them have had adequate training as far as handling petroleum-related problems.

Mr. ROBERTS. In my opinion, the answer is probably no for one major reason. There is a tremendous turnover in the volunteer fire service in the rural areas. That is the crux of the problem.

Just a few days ago I was traveling down a highway and saw a sign at the end of a driveway to a volunteer fire department advertising for volunteer firemen. In some cases, they are really desperate for volunteers. They are not paid departments in rural areas, and there is a tremendous turnover. To train new volunteers, some of them teenagers, to deal with events like this is a continuing problem that we must face.

Ms. DOUGLASS. In terms of all hazardous materials, including gasoline, we do think we need very basic emergency response training for all firemen, whether they are rural or volunteer. I do not think that is very difficult, and I do not think it is very expensive.

My rationale for saying that is that we have the basic tools out there now, such as this (ERG), and I think we have a number of very good video training films. I think if the volunteer firemen would make use of some of these materials and then coordinate with the industries in their region to get more specific training, you could get some very good basic training around the country.

Senator EXON. I have never seen the book before, so I know nothing about this at all. I would be the last one that anyone would want at the scene of a difficulty. If I were the only person there, however, and a gasoline truck were overturned and gasoline was running out, and if I had a fire hose and there was a hydrant nearby, I suspect that I would conclude that at least I should turn the water on and start spraying the truck. I should probably tell people to please stop smoking in the immediate area, and I would spray water on the gasoline truck and try and wash the gasoline away so that it would become less volatile.

Now, I have seen that happen, and I have seen firemen doing that. I suppose that is not far removed from what normally would be the case if we had a gasoline truck overturn.

What else do you do?

Ms. DOUGLASS. Well, if you are a fireman or a policeman, a highway patrolman, and you came across an overturned truck, a hazardous materials truck, we hope——

Senator EXON. You mean I have to have my booklet?

Ms. DOUGLASS. Well, we have tried to distribute this book to every fireman and highway patrolman in the United States.

Senator EXON. Okay. Now, what does that say?

Ms. DOUGLASS. On the truck is a placard with four numbers. The number for gasoline is 1203. You would look up in the ID number index, 1203, and it would tell you that the hazardous material is gasoline and that you should look at guide number 27.

So you go to guide number 27 in this book, and it tells you some of the characteristics and basic emergency response. It says for small fire you should use dry chemical, CO_2, water spray or foam; for a large fire, water spray——

Senator EXON. Oh, I had it figured out. Spray, alright.

Ms. DOUGLASS [continuing]. Fog or foam, and then it goes on in a little bit more detail.

It also tells you to call CHEMTREC, and when you get in touch with CHEMTREC, which you should be able to do immediately, it will give you more information on how to deal with that problem.

Each response is different, and as you will recall in the Bhopal, India situation, you did not want to put water on the chemcial.

Senator EXON. You did not want to put water on it, right. I remember reading about that.

Ms. DOUGLASS. Right. So it is important that some very basic emergency response knowledge be used.

Senator EXON. I will have some further questions which I will submit to you for the record, and you can respond, if you would. We appreciate very much your coming, and we do not want to drag this out too much.

I am pleased to recognize the ranking member of the Committee, Senator Kasten, at this time for any opening statement or questions that he has.

OPENING STATEMENT BY SENATOR KASTEN

Senator KASTEN. Mr. Chairman, I thank you. This is our second day of hearings on this subject, and as we begin I would like to again express my appreciation to Edith Page, who appeared before us last Wednesday, for her professional presentation and her work on the comprehensive OTA study on the transportation of hazardous materials. The testimony of the other witnesses that day, I think, was very helpful.

Now, as we begin the testimony today, one of the things that has impressed me is the fact that for Fiscal Year 1988 the Research and Special Programs Administration is seeking just $8.8 million. This figure is even $1.5 million more than last year, but given the severity of some of the problems that came up in the last hearings and I believe will be coming up in today's hearings, I think that our Committee is going to have to look very carefully at whether or not we are talking about adequate levels of funding. Given the severity of some of the problems concerning the training of thousands of first response personnel across the country, the coordination of State and Federal programs in this area, the establishment of data collection and monitoring programs, and the agency's lead role in coordinating the Federal Government agencies in this area, it is easy to see why we are hearing from many sources that there is a problem of underfunding here. This is not to say that more dollars is always the solution, but it is heartening to see any agency making as good progress as they have under the circumstances.

I also want to compliment RSPA on their cooperation with OTA as expressed by Ms. Page and RSPA's movement in several areas to correct criticisms of their programs. Again, with respect to dollars, in the all-important area of emergency response, an issue area of great concern, there is a request for FY88 of $390,000 and one additional person. I wonder if this is the most efficiently run agency or whether we have to really rethink the small level of resources committed to this area.

Looking to the industry and local government testimony of today and taking the testimony we have already heard, it seems clear that something has to be done concerning the consistency or uniformity of regulations concerning hazardous materials transportation and the funding means to be employed. The problems that have been outlined are only going to become more severe given the reliance our society has on the materials which benefit us so greatly, but pose a threat at the same time—particularly during the transportation phase. I look forward to our consideration of the views of our witnesses. Thank you, Mr. Chairman.

There are a couple of questions that I also would like to submit to the witnesses for their written response.

Senator Exon. Thank you very much, Senator Kasten.

Senator Adams.

OPENING STATEMENT BY SENATOR ADAMS

Senator Adams. I, too, Mr. Chairman, have an opening statement.

Mr. Chairman, in our first day of hearings we heard from the people who have studied the problem of transporting hazardous materials. Today we will hear from the people who have to live with the problem—and may have to die because of it unless we make some serious and significant structural changes in the way we deal with hazardous waste transportation.

What we found out in our first day of hearings is that the system has become a hodge-podge of differing jurisdictions, inconsistent regulations, adversarial attitudes, and uneven enforcement. Today I suspect that we will be told about the consequences of those failures and flaws.

As we listen to the concerns and complaints of those who have operational responsiblities in this area, we need to place their comments in context. We are dealing with dangerous materials here—

the term "hazardous material" hides a reality of poison and pollution which threatens our national health and the public's faith in our abilty to deal with the results of our technological society.

As a result of the public's concerns over some of these hazardous materials, Congress has taken some steps to deal with this problem: we reauthorized the Resources Conservation and Recovery Act to control the production and disposal of hazardous wastes including a manifest system to assure proper shipment of these materials. We have a Superfund designed to clean up what we have already produced. Last year in reauthorizing Superfund, Congress included a community right-to-know title to insure that communities know and can respond to chemical plant accidents.

Now we need new legislation and set of regulations which will allow us deal with the shipment of these materials. We already know that the present structure is inadequate. I hope that today we will get some concrete suggestions which will help us make the changes we so clearly need to make.

I have just two questions.

My first question is that in the report we heard yesterday, it is stated that in the new deregulated truck economy we have now, 25 to 50 percent of the trucks are improperly placarded. I recently read in the paper that they pulled off the road in just a random inspection in this area 50 percent of the trucks as being unsafe.

Now, what I would like to know is what your recommendation is to this Committee when people come, and as Senator Exon said, suppose it has a placard that says "petrol" on it but it has something else in it; and second, about all of these trucks which are on the highway at the present time which every report anytime anybody goes out and looks at them says they are not safe?

Ms. DOUGLASS. Okay. First, let me respond to the statement in the OTA report that 25 to 50 percent of the trucks are improperly placarded. I read that, and I was really concerned about that. I have gone to almost all of our Federal/State regional meetings with the State Highway Patrols regarding hazardous materials transportation, and I have asked—Is that what you are finding?

They said if improperly placarded means that one of the four placards is missing or one is upside down rather than rightside up or that one is dirty or something like that, they said that could be true, but that as far as improper being the wrong numbered placard being on the truck, they have not ever found that to be a problem.

Obviously, if somebody is going to purposefully not placard the truck, they are not going to find that information except by chance.

Anyway, I asked if there has ever been a case of improper emergency response due to improperly placarded trucks, and the answer to that all around the country was absolutely not. That has not been the case.

Senator ADAMS. What do you mean, "around the country"?

Ms. DOUGLASS. In the 50 states.

Senator ADAMS. You mean it never happens?

Ms. DOUGLASS. I have gone to almost every single Federal/State regional meeting myself, and I asked that question. The State Highway Patrol told me that that has not happened, that they are not aware of that happening. I am not going to say it has never happened, but that is what I was told by representatives of the five different regions of the country.

Now, second, I do believe, as I said, that there are things that we can do to improve hazardous materials transportation, and we are doing those things. We have asked for an increased budget and staff, and I hope that you all will support us in that regard.

When you say 50 percent or half the trucks were pulled off the road——

Senator ADAMS. No; I am just reporting what was reported to us yesterday, and I simply want to know what the fact is.

Ms. DOUGLASS. Well, that is not the case with respect to hazardous material trucks.

Senator ADAMS. I mean, we are getting it from the state patrol on condition of trucks. We got it from OTA on placarding of trucks. I just want to know what the facts are.

Ms. DOUGLASS. That is not accurate with respect to hazardous materials trucks. I do not know the number that would be pulled off the road, but I will check. It is much, much lower than the 40 percent or whatever the figure for the general trucking is. It is lower, and we are asking——

Senator ADAMS. Well, I will submit some written questions to you, Ms. Douglass, but I hope you will talk with the OTA people and with those who are reporting it out of the State system so that in response to the written questions we have an answer of whether or not it is true.

I will tell you from my experience, which is some experience in the transportation area, most of those trucks out there are not properly placarded and are not safe because they are running on a five-year cycle. At the end of the cycle they are being lumped at the end, and they are having to drive the rates down.

Now, you may think that that is different from your analysis, and I want to be proven different on that; but I think you have a very dangerous situation out there. It is proven on the beltway almost every day. Now, if I am wrong about that, then we should not be fooling around with it. If I am right about it, I would like it done.

I have a second question, and I will be very brief, Mr. Chairman. It is my understanding that your cargoes in the Department of Energy on nuclear waste and weapons material are not in the HAZMAT system; correct?

Ms. DOUGLASS. I do not understand.

Mr. ROBERTS. Senator, I think you will find the vast portion of the Department of Energy's shipments are being transported subject to the Department's regulations, the Department of Transportation's regulations.

Senator ADAMS. Well, are they or are they not in the HAZMAT system?

Mr. ROBERTS. There are some materials, when they are under escort by the Department of Energy under security arrangements and moved in the Department of Energy's equipment, which are not subject to the Department's regulations.

Senator ADAMS. I do not think any of them are subject to your regulation, are they? Is it not just voluntary?

Ms. DOUGLASS. No.

Mr. ROBERTS. We consider all commercial vehicle transportation by the Department of Energy to be subject to our regulations. In other words, if they use a common carrier, we consider it subject to our regulations.

Senator ADAMS. I was looking in your guide, and I will submit written questions on this, too, on radioactive material, but I cannot find in here that they know who to call and they would have to call in the Department of Energy hierarchy if any accident occurred because it is not in your regular system, and I do not think they are going to get an answer from CHEMTREC.

Mr. ROBERTS. Senator, I worked for many years with the fire service people in developing this guidebook, and one of the things they told us, give us a number but only one number. So we selected the CHEMTREC number. CHEMTREC has immediate—and anyone is welcome to test it, I have—access to the Department of Energy emergency call numbers.

As a matter of fact, a few months ago I personally tested it on a weekend during a real event, and it worked.

Ms. DOUGLASS. Nonetheless, Al, that CHEMTREC number is on every page of the guide.

Mr. ROBERTS. Sixty-four times.

Ms. DOUGLASS. We are right now in the process of a rulemaking to require on the shipping paper the appropriate telephone numbers that are manned 24 hours a day. We are also, in our next guidebook, going to add to the CHEMTREC number, the Department of Transportation National Response Center telephone number which is also manned 24 hours a day.

Senator ADAMS. That is what I wondered. I asked about that yesterday. You still have that number, do you not?

Ms. DOUGLASS. Yes. The Coast Guard——

Senator ADAMS. I do not understand why it was not included as part of the emergency response. CHEMTREC is a private organization, is it not?

Ms. DOUGLASS. Yes, it is, but we do have a contract with CMA on that.

Senator ADAMS. I am not criticizing it. It is a private organization, and your number is not on the book, is it?

Ms. DOUGLASS. The number is not in the book but it does say in the very first section right here that in addition to calling CHEMTREC they should also call the National Response Center.

This book was first published in 1980, and it was developed during the previous several years. I think that the decision was made at that time, based on Al's conversations with the fire community and the highway patrols and others, that it was best to put one number and not to confuse people by putting several different numbers.

Mr. ROBERTS. I might add, Senator—excuse me.

Senator EXON. The Senator's time is up. We have a whole group of witnesses waiting out there. I think we have spent enough time on this matter.

Would you please submit your answers for the record to the very legitimate question asked by Senator Adams.

[The information referred to follows:]

[The following information was subsequently received for the record:]

In the next edition of the Emergency Response Guidebook (ERG), RSPA will add a statement concerning mandatory communication with the National Response Center (NRC) when reportable quantities of hazardous substances are dscharged. The principal reason behind this addition is that many carriers are distributing copies of the ERG to their personnel and it is important that they know that Federal law requires that the NRC be immediately notified when discharges of reportable quantities occur during transportation. For immediate emergency response information beyond that provided by the ERG, the CHEMTREC telephone number reference will be maintained. CHEMTREC has a telephone and hard copy communication link with the NRC in addition to immediate 24 hours access to DOD relative to incidents involving munitions and DOE relative to any incidents involving radioactive materials such as spent nuclear fuel.

Senator EXON. I am going to cut off any further responses. You seem to be on the defensive on this issue, I must tell the members of the panel, and I think we need some answers. So please provide the answers in written testimony.

One last question, and then I will excuse you. We talked about hazardous materials, the response and transportation and so forth. I assume that these basically are on the highways.

Do any of these charts indicate train and waterway? All of those, is that right, all three?

Ms. DOUGLASS. Yes, that chart does indicate the rail as well.

Senator EXON. All right. My question has to do with the fact that there are some hazardous materials moved by air, I suppose. Is that right?

Mr. ROBERTS. They are in there, Senator.

Ms. DOUGLASS. Yes.

Senator EXON. Are air incidents indicated on any of these charts?

Mr. ROBERTS. Yes, they are.

Senator EXON. Thank you very much, panel. We appreciate your coming. You are excused, and I will call the next panel, local representatives, Honorable Thomas White, Councilmember, Greenbelt, Maryland, on behalf of the National League of Cities; and Mr. Jeffrey Schiff, Executive Director of the National Association of Towns and Townships.

Mr. White and Mr. Schiff, if you will come forward, please, we will be delighted to have you testify at this time.

I would start out by saying that any written statements that you have will be, without objection, accepted as a part of the record, and I would ask you to proceed at this time, whichever one of you gentlemen wishes to go first.

Mr. White.

STATEMENTS OF THOMAS X. WHITE, COUNCILMEMBER, GREENBELT, MD, ON BEHALF OF THE NATIONAL LEAGUE OF CITIES, AND JEFFREY SCHIFF, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF TOWNS AND TOWNSHIPS

Mr. WHITE. Mr. Chairman, Members of the Subcommittee, I am Thomas White, Mayor Pro-Tem of the City of Greenbelt, Maryland and a member of the National League of Cities, Energy, Environment and Natural Resource Steering Committee. I am here today to testify on the transportation of hazardous materials for the National League of Cities. It is 16,000 cities and towns in every part of the country. In the brief time that I have, I will highlight the viewpoint of our organization regarding hazardous materials transportation as presented in our written testimony.

We believe that the Hazardous Materials Transportation Act has never been implemented in the manner envisioned by this Committee. It has been plagued by insufficient personnel and inadequate resources. While the law assumes that the Department of Transportation will develop the rules, enforce them and coordinate emergency response, that simply has not been done, and it is unlikely to be done given current resources.

Consequently, regulation of hazardous materials transportation has by default become the responsibility of State and local governments. The result is confusion, conflict and litigation.

Over all, we are pleased with the OTA report on the transportation of hazardous materials. We believe their recommendations are very consistent with National League of Cities' policies on this issue.

Our priorities are very simple: emergency response capacity; adequate enforcement; and a funding source. Concomitant with addressing these needs, we also believe that it is essential for Congress to clarify the legitimate roles and responsibility of each level of government with respect to the transportation of hazardous materials.

Regarding emergency response, first and most importantly a Federal program should be created to provide assistance to localities for training, planning and equipment purchases in order to improve emergency response capacity.

Second, Federal, State and local governments should develop one centralized emergency response authority within each of their jurisdictions to enable better interjurisdictional communication when an accident does occur.

Third, the Federal government should develop an outreach program to explain its regulations to State and local officials and should set minimum training and education standards so that shippers and emergency personnel in all jurisdictions will have common understanding of accident prevention and mitigation.

Fourth, the Federal Government should provide guidelines for planning for and responding to emergencies and should furnish technical information in an emergency situation.

Fifth, the Federal government should evaluate and certify training programs used by regional, State and local emergency personnel.

Finally, industry should be required to participate in education and training efforts and in accident prevention and response activities.

In the area of enforcement, the Federal government should continue to be responsible for the enforcement of manufacturing, testing, repair and reconditioning standards for hazardous materials containers and packaging. These standards should apply to all shipments made by the Departments of Energy and Defense as well.

Additionally, the Federal government should continue to enforce standards for labeling, marking, placarding, designating and classifying hazardous materials. We also wish to reiterate the need for regulatory consistency.

NLC believes Congress should establish a national trust fund based on a registration fee which will generate sufficient revenues to pay for State and local hazardous materials-related needs such as emergency response planning, training, equipment and personnel. Funds should be distributed to State and local governments based on a formula which takes into account the volume of hazardous materials shipments passing through each jurisdiction annually and also in proportion to the amount of risk that is caused by those shipments.

On behalf of the League of Cities, we appreciate the opportunity to testify before this Subcommittee and share our views with you on this critical municipal issue. We would be pleased to answer questions that you might have.

[The statement follows:]

STATEMENT OF THOMAS X. WHITE, ON BEHALF OF THE NATIONAL LEAGUE OF CITIES

Mr. Chairman, members of the Subcommittee: I am Thomas X. White, Mayor Pro-Team of Greenbelt, Maryland and a member of the National League of Cities Energy, Environment and Natural Resources Steering Committee. I am here today to testify on the transportation of hazardous materials for the National League of Cities and the 16,000 cities and towns in every part of the nation that NLC represents.

The National League of Cities has spent considerable time on this critical and sensitive issue. Two of NLC's policy committees—Transportation and Communications, and Energy, Environment and Natural Resources—have discussed, analyzed and adopted national municipal policy on this issue over the past several years. NLC was one of the five groups that initially convened a coalition of state, local government and industry representatives in the development of an alternative hazardous materials transportation proposal. In addition, our organization has had representatives on the National Hazardous Materials Transportation Advisory Council and the Advisory Committee to the Office of Technology Assessment's project, both of which have developed recommendations on the appropriate roles of the various levels of government in dealing with hazardous materials transportation.

Overall, we were pleased with the OTA report on the *Transportation of Hazardous Materials* and believe their recommendations are largely consistent with the NLC's policies on this issue.

LOCAL VIEW OF THE PROBLEM OF HAZMATS TRANSPORTATION

We believe current regulation of the transportation of hazardous materials can only be described as ambivalent. Obviously, no city wants its main thoroughfares to be the principal arteries for the movement of hazardous materials. But, hazardous materials are a fact of modern life and their movement will continue. While local governments would prefer to have sole authority to regulate hazardous materials transport within their boundaries, we understand that a maze of conflicting, regulations, requirements, and fees imposes a significant and undue burden on neighboring communities and ultimately makes such transportation unsafe.

The Hazardous Materials Transportation Act (HMTA) has never been implemented in the manner envisioned by this committee. It has been plagued by insufficient personnel and inadequate resources. While the law assumes the Department of Transportation will develop the rules, enforce them and coordinate emergency response, that simply has not been done and is unlikely to be done given current resources. Consequently, regulation of hazardous materials transportation has, by default become the responsibility of state and local governments. The result is confusion, conflict and endless litigation.

The current attempt to regulate the transportation of hazardous material is clearly unacceptable—both to governments and to industry. No one is sure about their rights or their responsibilities. Smaller cities, without sophisticated legal capacity, are reluctant to regulate hazardous materials transportation in their communities simply because they are uncertain about their legitimate sphere of influence. Other cities are moving ahead with local ordinances which meet their public health and safety needs but often directly and adversely impact neighboring cities and towns. As a consequence, the courts are defining the parameters of responsibility case-by-case and not necessarily with any degree of consistency.

Our priorities are very simple: emergency response capacity and adequate enforcement. Concommitant with addressing these needs, we also believe that it is essential for Congress to clarify the legitimate roles and responsibilities of each level of government with respect to the transportation of hazardous materials.

EMERGENCY RESPONSE

Several years ago, a Smithsonian Magazine article stated, "Although the transportation of hazardous materials is clearly a national issue, the burden of preparing for an emergency and responding when one occurs falls squarely on states and localities." When an accident or spill occurs, it is the city fire department, police department, and emergency rescue service which are almost inevitably the ones immediately able to deploy personnel and equipment.

In cities, because of their higher population densities and potential for traffic congestion, the dangers of accidents involving hazardous materials are, if anything, exacerbated. Evacuation, emergency response and remedial actions are many times more complicated in crowded cities. Because we bear the ultimate health and safety responsibility, we must have the fiscal resources to respond effectively. That capacity does not exist and is simply unaffordable in far too many jurisdictions.

As the OTA study points out, "only 25 percent of the nation's two million emergency response personnel have been adequately trained . . .," a totally unacceptable situation from the perspective of both the individual required to respond to an incident and the community in which such an incident occurs.

While NLC believes that emergency response preparedness should continue to be the primary responsibility of state and local government, several steps can be taken by all levels of government and by industry to improve emergency response capabilities.

First and most importantly, a federal program should be created to provide assistance to localities for training, planning and equipment purchases in order to improve emergency response capacity.

Second, federal, state and local governments should develop one centralized emergency response authority within each of their jurisdictions to enable better interjurisdictional communications when an accident does occur. As you undoubtedly know, Congress required creation of state and local emergency response committees under Title III of the newly reauthorized Superfund legislation. Perhaps it would be worth exploring whether the authority of these committees could be expanded to deal with coordination of some of the transportation issues as well.

Third, the federal government should develop an outreach program to explain its regulations to state and local officials and should set minimum training and education standards so that shippers and emergency personnel in all jurisdictions will have common understanding of accident prevention and mitigation.

Fourth, the federal government should provide guidelines for planning for and responding to emergencies and should furnish technical information in an emergency situation.

Fifth, the federal government should evaluate and certify training programs used by regional, state and local emergency personnel.

And finally, industry should be required to participate in education and training efforts, and in accident prevention and response activities. As an inducement to industry participation in emergency response efforts, the federal government should encourage its state and local counterparts to adopt good samaritan legislation limiting industry liability if they do respond to an accident.

ENFORCEMENT

The Federal Government should continue to be responsible for the enforcement of federal manufacturing, testing, repair, and reconditioning standards for hazardous materials containers and packaging, and these standards should apply to all shipments made by the Departments of Energy and Defense as well. Additionally, the Federal Government should continue to enforce standards for labeling, marking, placarding, designating and classifying hazardous materials. States and localities should have concurrent jurisdiction over vehicle operating requirements and standards; that is, they should be allowed and encouraged to adopt and enforce federal standards and requirements, including the imposition of fines or civil penalties for infractions of these requirements.

To assist states and local government enforcement efforts, Motor Carrier Safety Assistance Program (MCSAP) grants from the Highway Trust Fund should continue to be funded at full authorization levels and made available to state and local governments. Additionally, the State Hazardous Materials Enforcement Development (SHMED) program, which was created by the federal government to help states establish hazardous materials transportation inspection and enforcement programs, should be retained and adequately funded.

REGULATORY CONSISTENCY

The Federal Government should develop performance standards to guide the selection of routes along which hazardous materials can be shipped. State and local governments should have concurrent jurisdiction over routing; that is, they should be permitted to adopt and enforce routing requirements (including time-of-day restrictions, escorting and local bans) which are consistent with these performance standards, unless the state or locality can demonstrate that it has a unique local safety or health circumstance which necessitates passage of a routing requirement inconsistent with the federal standard. To the extent possible, the federal government should encourage the use of public/private sector coordinating councils (such as those established under Superfund), composed of representatives of industry and state and local governments, to promulgate routing requirements and select appropriate routes. Since decisions made by one community can adversely impact a number of surrounding jurisdictions, to the extent possible, routing restrictions should be jointly developed by the affected communities.

Disputes about the consistency of a routing requirement with federal law should be considered by the Department of Transportation which should evaluate inconsistency petitions according to specific criteria (such as the impact of the requirement on interstate commerce and safety), and there should be time limits on the evaluation to expedite decisionmaking. In a court review, the Secretary of Transportation's decision should be advisory, not binding upon the court.

FUNDING

As the OTA study indicates, those local jurisdictions that have developed emergency response training programs find these efforts costly. More often than not, these same communities have implemented a licensing or fee system to fund their training programs. As the study mentions, the Santa Clara, California Fire Department raised $268,000, "generated by the license and fee program," for training purposes. The city of Houston, Texas budgets $98,000 of municipal tax revenues for their "hazardous materials team in addition to salary and equipment maintenance expenses."

NLC believes Congress should establish a national trust fund based on a registration fee which will generate sufficient revenues to pay for state and local hazardous materials-related needs such as emergency response planning, training, equipment and personnel. Funds should be distributed to state and local governments based on a formula which takes into account the volume of hazardous materials shipments passing through each jurisdiction annually, and in proportion to the amount of risk that is caused by such shipments.

NLC proposes that to be eligible for funds from the trust fund, a state should demonstrate that:

It has initiated a program to develop a state-wide emergency response plan that includes transportation incidents (as distinguished from the Superfund requirement for emergency response for fixed facilities);

Designated a lead-agency for administering emergency response activities;

Agreed to assist local governments in emergency planning and response;

Agreed to pass a portion of its hazardous materials entitlement to local governments for planning and emergency response purposes; and,

Established an emergency response coordinating council consisting of state and local governments and industry representatives.

Any state or locality which chooses to accept funds from the hazardous materials trust fund would be precluded from levying its own fees on the transportation of hazardous materials. A locality, which can demonstrate that it has a unique hazardous materials problem or need which is not being satisfied by its federal trust fund suballocation, should be allowed to levy its own fees on the transportation of hazardous materials.

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DATA COLLECTION

While the recently enacted Superfund amendments will address some of the data needs of local governments—first, by expanding the body of information on types and quantities of hazardous materials at fixed facilities that will be available to critical state and local government personnel and, second, by enhancing our ability to develop more appropriate emergency response capacity at these fixed facilities, we believe it is only a partial solution and inadequate to meet our needs with respect to transportation of these hazardous substances.

Information about the general nature and quantity of materials being shipped, the general shipment route, and other relevant information about the shipper, including shipments made by the Departments of Energy or Defense, should be collected on an annual basis and disseminated in a manner to be determined by the Secretary of Transportation.

Routing information should also be made available to the local communities on an annual basis. Furthermore, federal, state, regional and local governments should cooperate more closely in the development of a unified data and notification system, such as a single manifest system, and in the exchange of shipment-related information.

On behalf of the League of Cities, we appreciate the opportunity to testify before this subcommittee and share our views with you on this critical municipal issue. I would be pleased to answer any questions you may have. Thank you.

[The following information was subsequently received for the record:]

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June 19, 1987

The Honorable Ernest F. Hollings, Chairman
Committee on Commerce, Science and Transportation
United States Senate
SH-428 Senate Hart Office Building
Washington, D.C. 20510

Dear Senator Hollings:

With reference to the questions submitted as a follow-up to my recent testimony on the transportation of hazardous materials, I wish to submit the following responses:

1. The best information available at this time is included in the July 1986 OTA study, "Transportation of Hazardous Materials," p. 205, which indicates that OTA's evaluation of the need "indicates that only 25 percent of the Nation's 2 million emergency response personnel have been adequately trained..."

We believe it is essential for any proposal dealing with hazardous materials transportation to include a more in-depth evaluation of the actual emergency response needs.

At the same time, however, given the OTA evaluation, we do not consider it prudent to await the conclusion of a definitive needs survey. Rather we believe such a study should be conducted simultaneously with a program to expand the universe of those properly prepared to deal with hazardous emergencies.

2. Your question on the relationship between federal assistance and uniformity at the state and local level vis-a-vis the transportation of hazardous materials involves several policy positions adopted by NLC.

As you may be aware, for the past five years NLC has been working with a coalition of state and local government and industry representatives to arrive at mutually satisfactory positions on the many issues involved with the transport of hazardous materials. Many of our policies are based on the positions developed by this coalition.

First, recognizing budget constraints in light of the federal deficit and consistent with a mutual commitment made with former U.S. Transportation Secretary Drew Lewis, our policy calls for the creation of an industry financed trust fund to provide financial assistance for state and local hazardous materials related needs. A condition precedent to accepting these funds would be agreement by the respective state and local governments not to impose additional fees on hazardous materials transport in these jurisdictions, except under specified circumstances (i.e., unique hazardous materials problems or need not being satisfied by trust fund allocations).

Second, we have long supported uniformity of regulation -- i.e., sole federal responsibility -- for hazardous materials container and packaging standards, and for labeling, marking, placarding, and designating and classifying hazardous materials.

Third, NLC supports concurrent jurisdiction on such other issues as routing and enforcement. We believe the federal government should develop performance standards to guide the selection of routes along which hazardous materials can be shipped.

3. Your final question is more difficult to answer. We tend to be more aware of major transportation disasters than of the less spectacular occurances. As a consequence our overall impression is that agency response is less than optimum. Enclosed for your information is a copy of NLC's weekly publication which highlights the Miamisburg experience of last year. I believe you can draw your own conclusions about agency response, at least in this instance, in this case.

Thank you for your interest in our views on this issue. If we can be of further assistance, please let us know.

Sincerely,

Thomas X. White

Thomas X. White
Councilmember
Greenbelt, Maryland

Senator EXON. Thank you, Mr. White.

Mr. Schiff.

Mr. SCHIFF. Good morning, Senators. It is my pleasure to be with you this morning. My name is Jeffrey Schiff. I am the Executive Director of the National Association of Towns and Townships, representing approximately 14,000 mostly small, mostly rural communities across the United States.

I would like to begin my testimony by relating to you a set of statistics that I continue to find mindboggling, and it will give us a framework in which to look at the rest of our testimony.

There are today 39,000 units of general purpose government in the United States. Of those, 72 percent or almost three in four have populations of under 3,000 people. Half, in fact, of all the communities in America today have fewer than 1,000 people. That means that most of America is small, that we are a nation of small towns. What baggage does that bring with it?

It means that we do not have professional staff in our towns. We do not have full-time employees. We have volunteers. We do not have computers. We do not have travel budgets. We do not have training budgets. Many of the things that we routinely in Washington, D.C. assume a local government may have is in fact not the case in most of America.

So what does that mean in terms of Federal policy with regard to hazardous materials or, in fact, anything that the Federal government might be considering? If this network of local government officials and volunteers in small towns is expected to be implementers of Federal policy in something as important as hazardous materials transportation, then it strikes us at the National Association of Towns and Townships that that kind of Federal response must be flexible, and if flexibility is not feasible because of the type of regulation or question that is being discussed, then there needs to be some sort of consideration of financial resources and the burden that this kind of Federal policy implementation will put on a local government such as I described before.

This need to respond with flexibility is not unprecedented. Routinely, more or less, we have devised special rules for small hospitals, for small railroads, for small businesses. Generally we do not find the Federal government segmenting the universe of local government in the same sort of way. We believe that it is about time that that overall approach be adopted by the Federal government.

We think that flexibility is important. Financial resources, if flexibility is infeasible, are also important, especially since last year when the general revenue sharing program was terminated. We now have 80 percent of America's localities receiving no money whatsoever from Washington to help implement these Federal policies.

We are very pleased with the OTA study. We were pleased to have two representatives on that panel, and we think that many of the recommendations do reflect the kinds of concerns we have.

NATAT's policy positions with regard to hazardous materials transportation include the registration of shippers and carriers to better define the universe of what is involved in hazardous materials transportation, the adoption of uniform standards for the transportation of hazardous materials tied to adequate funding, if small local governments are to be implementers of Federal policy.

We also have been for many years supporters of the concept of a self-funded national emergency response fund because of the major cost involved in training and equipment. We hope that if such a system were ever adopted that there would be guarantees that local governments themselves, the people on the ground, would have direct access to those monies.

Also, the certification of training programs we believe is extremely important because right now our volunteer people out there have no basic way to determine which is the best training that is available for their meager resources.

In closing, let me thank you very much for the opportunity to give the small town America view on this important subject, and we would be happy to answer any questions you may have.

[The statement follows:]

STATEMENT OF THE NATIONAL ASSOCIATION OF TOWNS AND TOWNSHIPS

Mr. Chairman, my name is Jeffrey Schiff. I represent The National Association of Towns and Townships. Our members are more than 13,000 units of towns, townships, and small community governments nationwide which represents the majority of general purpose governments in the United States. That statistic may be a surprising one for members of the committee, but it is important to view our testimony in light of this fact: of all general purpose local governments in the United States—that is every municipality, county, town and township—seventy-two percent of them are under 3,000 people. Half of all general purpose governments are under 1,000. We are a nation of small towns, Mr. Chairman, and the federal government needs to remember that. In the context of these hearings, Mr. Chairman, we are speaking especially for those which are rural in nature and are served by volunteer fire departments. In a complex world where production and use of hazardous materials is increasing, these smaller communities find themselves faced with overwhelming demands to be prepared for any potential accident that may occur. While there is a growing awareness among small communities of the potential for technological disasters, the vast majority are only prepared to respond in the event of natural disasters. And in many instances, their resource capacity is already overextended in their effort to meet current emergency response needs.

In its comprehensive report on the transportation of hazardous materials, the U.S. Office of Technology Assessment (OTA) addressed the issues confronting the nation's smaller communities accurately and thoroughly. Great effort was made to include small community representatives in the advisory group for the study, which included two representatives from the membership of NATaT. In particular, we want to take this opportunity to thank the project director, Edith Page, for her continued effort to seek out the views of our association and its members in preparing the report. As a result, we believe that the report addressed fairly extensively the issues that confront the nation's smaller, more rural communities as they tackle the job of learning about hazardous materials that are transported through their jurisdictions.

The OTA report documents certain problems facing the nation's smaller communities that need to be addressed through federal legislation, if improvements are to be made in local government enforcement and emergency response programs. Work by NATaT in this area for over five years through workshops, surveys, and written information supports fully the conclusions reached by the OTA. These problems are summarized below.

1. Most important, many small community volunteer fire departments are not trained to respond in the event of a hazardous materials accident. As small communities are likely to be first responders in the event of an accident, our fire and safety personnel need basic first-response training. The problem is complicated further because even in those instances where communities have made a commitment to secure training as part of a hazardous materials emergency response program, the quality of the training may be called into question. Unfortunately, it is difficult to refer communities to training programs to suit their needs, because no national standards for training or list of approved training programs exist.

In addition there is an accessibility and funding problem. Our mostly volunteer fire and safety personnel must often bear the burden of paying for their own transportation to regional training sessions including lodging and incidental expenses—where those sessions are even available. Town, township and small community government budgets cannot absorb these costs.

2. Communities that commit to developing the capacity to respond to accidents involving hazardous materials are unlikely to have the financial resources needed to secure the proper training, equipment, and vehicles. Repeatedly in the course of conducting workshops at national association conferences, the same story has been heard where communities have joined together to develop hazardous materials response capability but had succeeded in raising only a portion of the necessary funds. For rural communities in particular, the resource base does not necessarily exist to raise adequate funds, no matter how many raffles, bake sales, and other methods available are used.

3. Rural communities need better information made available to them on the movement of hazardous materials in their region. There are 39,000 general purpose local governments in the United States. Clearly, not all of these governments need to develop sophisticated response teams. The problem for the community, once it decides to take action, is determining how much of a program is needed. For many small communities, first-responder training may well be all that is required. But communities need information on the flow of hazardous materials traffic to help them gauge the relative risk posed to their community.

4. Communities complain that insufficient information accompanies the vehicles traveling through their towns and townships—a complaint that focuses primarily on truck traffic. If there is no information accompanying a shipment of potentially hazardous chemicals, communities may become defensive in their approach to the problem and perhaps compound it by enacting cumbersome or unworkable ordinances. More consistent and uniform enforcement of regulations governing driver and vehicle safety is needed to assist communities in protecting their jurisdictions.

The problems facing smaller communities nationwide could be remedied in part if action were taken at the federal level to strengthen the current system for regulating hazardous materials traffic.

For several years NATaT participated in a coalition of industry, state, and local government interest groups that worked to reach a consensus on ways to transport hazardous materials more safely. Our association still subscribe to many of the recommendations made by that coalition—recommendations that specifically address the problems documented by the OTA study.

Improvements along the lines of the suggestions outlined below would promote more cohesive and coordinated action among the various levels of governments. NATaT believes, moreover, that these recommendations are fair to all sectors, only if adopted jointly.

First, NATaT urges that the U.S. Department of Transportation [DOT] be required to register shippers and carriers of hazardous materials. The DOT already has the authority to establish a registration program but has not done so to date. We believe that such a program would help better define the industrial universe involved in transporting hazardous materials.

Second, our membership advocates a set of uniform national standards, issued by the U.S. Department of Transportation, that would govern hazardous materials transport. The details of these regulations are spelled out in draft legislation submitted to this committee in October of 1983. From a small community perspective, however, the importance of promoting uniform regulations is founded in a belief that such regulations would provide a mandatory framework that all localities must follow with certain important exceptions, including circumstances in which localities could adopt routing restrictions, bans, or curfews. Small communities agree that certain activities such as imposing fees or prohibiting traffic completely should not be allowed at the local level so as not to unduly impede traffic and thereby, unnecessarily threaten citizen safety.

It is our view, however, that uniform national regulations will not work unless state and local governments are provided the financial resources necessary to fulfill their obligations in implementing the regulations. For small communities in particularly, the mandating of regulations that they must follow without providing financial and technical assistance is tantamount to doing nothing. Consequently. we continue to stress the need for a national emergency response fund that would guarantee the distribution of training and equipment monies on a regional basis within states to assist localities in establishing adequate emergency response capacity. We also strongly advocate continued funding and promotion of the principles in the original State Hazardous Materials Enforcement Development program (SHMED) in order that proper training and adequate funding are spent on enforcement activities at the state and local levels of government. Otherwise, localities, and particularly uninformed smaller jurisdictions, will be unable to act in what they perceive to be their best interest.

Last, NATaT advocates the need for certification procedures for hazardous materials training programs to assist localities in evaluating programs before committing to them. Similarly, drivers of vehicles carrying hazardous materials should be required to receive certification and ongoing training in order to promote better safety on the road and better information accompanying vehicles carrying hazardous materials. Were such improvements adopted, we believe they would assist localities by providing them with information needed to accomplish those tasks appropriate to the local level. Otherwise, smaller and more rural communities will be left to their own devices to educate themselves about hazardous materials, training programs to meet their needs, and penalties that should be applied to violators. For smaller communities with limited expertise, this task is difficult.

In summary, NATaT's general position regarding federal mandates and other policy requirements is that small communities are different and have different needs and capacities than larger places. Federal policy should be flexible enough to recognize this great diversity, and if flexibility regarding a standard is not feasible, the national government should provide financial resources to enable small town America to comply.

It is our view that the mandates problem is not one of small localities being incompetent to participate in national policy initiatives, but that those initiatives, for whatever reason, are attempting to apply an inflexible standard of performance to a highly diverse network of intergovernmental actors. Small towns have played an continue to play an important role as implementors of national policy. In these increasingly complex times, realistic objectives for performance by America's small towns should be grounded in a realistic view of what is possible. To do otherwise is the recipe for ineffective policy.

We appreciate this opportunity to share our views with the subcommittee and look forward to the possibility that positive action will be taken during this session of Congress to make certain improvements in the current system of transporting hazardous materials. We are grateful to the U.S. Office of Technology Assessment for providing a thorough and exhaustive study of the issues that need to be addressed. We hope that the study can be put to rest in favor of action aimed at correcting the important problems that have been documented.

[The following information was subsequently received for the record:]

**National
Association of
Towns and Townships**

July 8, 1987

Sheryl Washington
Committee on Commerce, Science
and Transportation
United States Senate
508 Dirksen SOB
Washington, DC 20510-6125

Dear Ms. Washington:

I apologize for our late response to the Committee's questions which came as a result of the Haz Mat hearings on April 24, 1987; and I hope that the enclosed information will be helpful.

Having come to this issue completely new after replacing NATaT's expert on hazardous materials, Paula Alford, last year, I have been participating in the re-formed Hazardous Materials Coalition. As you know this coalition has been meeting regularly in an attempt to iron out the differences between industry and the public interest groups in this area. So far, our talks are going quite well, and we hope to be able to come to Congress with a compromise position which meets our collective needs.

In the meantime, however, and in response to Senator Exon's and Senator Kasten's questions, I am enclosing NATaT's position paper which resulted from the 1984 Coalition. Our basic position has not changed since that time. As you can see, our primary concern remains one of specific funding for small communities; state governments should be required to set aside a set of funds for governments with populations of 25,000 or less, and required to demonstrate that they have a mechanism which will include elected officials in consultations when they are formulating distribution plans; otherwise it is our experience that these communities will be ignored.

I urge you and other staff people who may be involved in this issue to remember that while these communities are the least able to protect themselves, they are most likely to be on hazardous material routes since larger municipalities are successfully routing hazardous materials around their own jurisdictions.

Again, my apologies for our late response. Please don't hesitate to call me if you have further questions.

Sincerely,

Ann Cole
Director of Federal Affairs

AC:ab

Enclosure

1522 K Street, Northwest, Suite 730 Washington, D.C. 20005 Telephone (202) 737-5200

National
Association of
Towns and Townships

NOTE: THIS IS A SUMMARY OUTLINE OF EACH OF THE PROVISIONS IN THE HAZARDOUS MATERIAL COALITION PROPOSAL AS SUBMITTED TO THE U.S. SENATE IN EARLY 1984. PLEASE NOTE THAT THOSE ITEMS WITH AN * ARE THE POLIC OF THE NATIONAL ASSOCIATION OF TOWNS AN TOWNSHIPS (NATaT) ONLY.

HAZARDOUS MATERIALS TRANSPORTATION

ADOPTED: February 24, 1984

The National Association of Towns and Townships urges the U.S. Congress to adopt amendments to the Hazardous Materials Transportation Act that would establish more nationally uniform regulations and provide state and local governments with hazardous materials emergency response and training funding. * The National Association of Towns and Townships cannot support such amendments, however, unless the specific needs of small governments are addressed in the legislation.

NATaT recommends that the following provisions be included in the amendments adopted by the U.S. Congress:

Purposes

1. Promote public safety by providing increased coordination and greater consistency among laws and regulations;
2. Assist state and local governments to play a major role in preventing accidents by adopting the enforcement of certain federal regulations;
3. Provide greater assistance to state and local governments in responding to accidents through training, technical assistance, and planning grants; and
4. Provide for a nationally uniform regulatory program.

Regulations

1. The Secretary of the Department of Transportation (DOT) shall issue regulations for the safe transportation in commerce of hazardous materials.
2. States and localities may adopt and enforce the regulations.
3. No state or local government may adopt or enforce a hazardous materials licensing program.
4. No state can ban the transportation of hazardous materials. (Does not include waste.)

5. As part of its regulations, DOT must adopt inconsistency requirements. State, local, or authority requirements shall be determined to be inconsistent based on whether the requirement:
    - A. inhibits compliance with the federal law;
    - B. imposes an undue burden on interstate commerce;
    - C. is unnecessary to the enhancement of safety in transportation;
    - D. should be applied nationally, not locally;
    - E. poses an obstacle to accomplishing this title;
    - F. is unnecessary to address unique local circumstances; and
    - G. poses an undue burden on safety of citizens of other jurisdictions through which the hazardous materials may be transported.

6. State and local governments would be permitted to adopt routing restrictions, bans, or curfews as long as they are consistent with A-G.

7. Otherwise, except as permitted by law, state and local regulations would be preempted.

Funding

1. Secretary of DOT shall establish a program to register shippers and carriers of hazardous materials and sellers of hazardous materials containers. Initial annual fee will be $50.00.

2. Fee will be graduated in two years to not less than $100 nor more than $1500 per registration per year.

3. After a study, the Secretary of DOT can also impose a fee of $50.00 on sellers of containers.

4. Secretary of DOT shall be permitted to revise the registration fee procedure if it is determined that additional funds are needed.

Prevention and Emergency Response

1. All fees will be held in a Hazardous Materials Transportation Emergency Response Fund.

2. Funds will be available to assist state and local governments in developing and implementing emergency response programs. Eligibility criteria shall include:

    -- designation by state of a lead agency
    -- evidence state has initiated a state-wide emergency response plan
    -- agreement that the state will assume responsibility for assisting local governments in hazardous materials emergency response and planning
    * -- agreement that sixty percent of the funds will go to local governments [with a percentage of those funds set aside for specific use by governments with a population of 25,000 of less]
    * -- demonstration by state that it is willing to consult with the elected officials of smaller governments in the distribution of funds
    -- establishment of an emergency response coordinating council consisting of representatives of state and local governments and industry
    -- demonstration that the state plan has been developed with industry and local governments.

3. Funds will be allotted to states based on a formula with five funding guidelines (highway mileage; railroad track mileage; number of commercial vehicles over 10,000 lbs.; miles traveled by commercial vehicles over 10,000 lbs.; 1980 population).

4. The Secretary of DOT shall undertake a study to determine the traffic flow of hazardous materials.

5. The Secretary shall develop certification procedures for training programs.

IF YOU WANT A COMPLETE COPY OF THE FORMAL AMENDMENTS, PAULA ALFORD OF NATaT CAN SEND THEM TO YOU. 202-737-5200.

FYI, from old
Coalition, 1984

A NATIONAL HAZARDOUS MATERIALS EMERGENCY RESPONSE FUND

Background

On October 23, 1983, the Hazardous Materials Coalition (a group of industry, state, and local government associations) submitted proposed legislative amendments to Senator John C. Danforth, then Chairman of the Subcommittee on Surface Transportation of the Committee on Commerce, Science, and Transportation. A revised version was distributed on February 24, 1984.

The coalition worked for two and one half years prior to October, 1983 to develop a series of specific and/or conceptual statutory recommendations for improving the current federal-state-local hazardous materials transportation system. The organizations that participated in the meetings are listed in Attachment 1. The result of their efforts was a series of mutually dependent legislative proposals aimed at improving the current system. The major provisions of the February 24 legislative draft are outlined in Attachment 2. The outline is intended to help put the trust fund in perspective.

Concept Behind the Fund

The concept of a trust fund emerged from coalition consideration of the need for state and local funding, one of several major problem areas involving the transport of hazardous materials. The major problems are:

-- The lack of clearly defined and identified roles of federal, state, and local governments in regulating hazardous materials. This has resulted in a proliferation of state and local requirements often in conflict with one another, and with federal requirements and their objectives.

-- The uncoordinated enforcement of hazardous materials regulations.

-- Inadequate and uncoordinated emergency preparedness and response efforts at the state and in particular, local levels of government.

In response to these problems, the coalition recommended that federal, state, and local roles in transporting hazardous materials be more clearly defined by statute--the intent being to establish a uniform, national regulatory program. Towards this goal, the coalition proposed a series of changes in existing law (see section entitled 'regulations' in Attachment 2).

The intent of the proposed changes would be to achieve more effective regulations through greater consistency in the content and application of hazardous materials regulations adopted and enforced by state and local governments. The legislation would also define specific roles and responsibilities for state and local governments. Most important, the amended statute would prohibit states and localities from setting up certain fund-raising programs and preempt states and localities in most instances from adopting their own regulations governing the transport of hazardous materials through their jurisdictions.

In return, the coalition advocates that industry financially assist those state and local governments willing to relinquish their areas of traditional authority and potential sources of funding in favor of participating in a uniform national hazardous materials program. Local governments, in particular, are often the first on the scene to respond in the event of an incident. Yet, local governments lack appropriate training, information, and equipment to respond. In addition, there are no federal funds earmarked for hazardous materials emergency response planning, preparation, and training for state and local personnel.

Consequently, the coalition recommends the creation of a national emergency response trust fund financed by the industry, to strike a balance between the competing interests of industry versus states and localities. The coalition intends that the two concepts be mutually dependent; that is, one is not acceptable without the other in any legislative proposal. Industry would be relieved of some of the burden caused by conflicting, overlapping, and fragmented regulations and penalties; states and localities would receive needed funds for hazardous materials emergency response programs.

Major work is underway in 1985, by the U.S. Congress' Office of Technology Assessment (OTA), the National Hazardous Materials Transporation Advisory Committee (NHMTAC), and the Federal Emergency Management Agency (FEMA) to assess the current state of hazardous materials emergency response and transportation activities. Preliminary results from these study efforts parallel the conclusions of the coalition. For a partial list of organizations conducting hazardous materials emergency response surveys, see Attachment 3.

Financing the Fund

The coalition recommends creation of a mandatory registration program for shippers, carriers and potentially, container manufacturers to collect the funds. While the task of registering all shippers and carriers nationwide would take time, the coalition reasons that (1) a mandatory registration program could be beneficial toward affecting needed improvements in the system rather than relying on vehicle permits, etc. to finance state and local emergency response programs, and (2) a registration program would serve to reduce the amount industry has been or may be required to pay to states and localities by spreading the financial burden across the industry, extending to small as well as mid-size and large companies.

The coalition views the registration program as potentially helpful in areas such as developing a data base on traffic flow information and financing emergency response activities. As an additional safeguard, the proposed legislation states that DOT will implement a registration program only after extensive consultation with industry, state, local, and other interested personnel.

Several other provisions are included in the legislation to address industry concerns that once established, the fund will become unmanageable and industry will be expected to contribute excessive amounts of money. Safeguards against this eventuality include:

(1) A cap of $1,500 per registrant per year would be established.

$1,500 would be the maximum collected; annual fees could also be as low as $100, depending on the volume and nature of materials. No more than one registration statement would be required per year per registrant. Estimates of the total amount that may be collected under this arrangement approximate $20 million.

(2) Trust fund monies could be used only for hazardous materials transportation emergency response planning, training, and equipment needs.

The trust fund is intended as a vehicle for improving state and local government capacity to respond to transportation incidents -- not as a source of funds for emergency response clean up of hazardous waste landfills and other purposes. The intent is to protect states, localities, and industry from any potential diversion of funds to areas not specified in law.

(3) The fund would be evaluated at the of end four years from the date of enactment, at which time Congress would have to reauthorize it.

In response to industry concerns that the fund will become self-perpetuating, Congressional action should be required to continue it. Reauthorization of the fund would also allow for revisions in its structure based on the data and information collected as a result of other provisions implemented by the legislation.

(4) Fund monies would supplement existing state and local activities -- not substitute for them.

The purpose of the fund is to assist state and local governments already helping themselves. Grant recipients would have to demonstrate their commitment from a policy, management, and fiscal perspective prior to receiving funds (see Distribution of Funds). The object is to ensure that money is spent not just on governments in need, but on governments that demonstrate the capacity and commitment to address their needs.

Distribution of Funds

The Department of Transportation or another federal agency would set up and administer the fund within 18 months of enactment of the Act, awarding funds to states meeting certain eligibility requirements. Allocations to states would be based on a five-part allocation formula (see Attachment 2, "Prevention and Emergency Response"). DOT could spend up to 10 percent of the fund for administrative expenses.

The eligibility requirements listed in Attachment 2 are intended to ensure that any state receiving funds has begun planning responsibly on ways to spend those funds and is prepared to consult with industry and local personnel in developing and implementing a state-wide emergency response plan.

Of special note, a state or locality would be ineligible to receive fund monies if the state or locality maintains a permit, registration, fee or similar program. This provision would apply to all localities within a state, should the state receive trust fund monies. The legislation does not prevent states, however, from opting to establish their own permit, fee, and/or registration program rather than applying for federal funds. But no state or its localities would be permitted to establish routing or prenotification standards beyond the federal standards. The coalition makes this proposal for a fund using incentives to participate for the following reasons:

(1) States and localities that have developed their own programs should not be permitted to receive federal funds over other governments, if other governments are willing to adopt national uniform standards, thereby endorsing a uniform regulatory framework.

(2) A minority of states are already moving to establish their own fee, permit, registration, and other programs in an effort to protect their citizens from a perceived threat. Where such state efforts have been established, the state is unlikely to be required to or want to participate in a federal program, given the modest size of the proposed fund.

(3) In reality, a good number of states and the vast majority of some 39,000 general purpose local governments have not developed their own programs and regulations and do not

> begin to have the capacity to do so. Therefore, state and local interest in a federal program of the type proposed by the coalition is likely to be substantial.

States receiving fund monies would also be required to pass at least 50 percent of those funds onto localities. Given the large number of localities nationwide, the coalition, among others, stresses the need for smaller localities joining collectively through regional consortia of governments to submit planning, training, or equipment funding proposals to the state. This approach is also feasible for many larger jurisdictions experiencing traffic on major interstates such as beltways.

The coalition leaves the establishment of local grant programs to state and local discretion with funds being available for planning, training, or equipment needs, depending on a local jurisdiction's needs. The coalition reasons that restrictions on the use of funds are unnecessary as the real limit will be on the amount of money available for any local jurisdiction's particular use. Well-intended and organized jurisdictions could be at any stage of development in their hazardous materials emergency response programs when applying for funds and therefore should not be limited to applying for funds for one activity over another.

Conclusion

It has now been four and one half years since the coalition first met to begin work toward resolution of their differences of opinion on the best ways to ensure safe transportation of hazardous materials. During that time, the opportunity to receive funding continues to surface as a major incentive for state and local government support of a uniform nationwide regulatory program. Unfortunately, as more and more state and local governments move to adopt their own regulations and to establish their own fee, permit, or licensing programs, the incentives for state and local support of uniform regulations may diminish.

In recognition of this trend, the coalition wants to develop a unified and rational system to reverse, or at least diminish, the current trend towards fragmentation in the transportation system for hazardous materials. All sectors stand to lose should improvements in the system be left to Congress in the aftermath of a major accident.

In presenting these recommendations, the coalition recognizes that much work remains to assess the quantity and quality of state and local enforcement and emergency response preparedness programs as well as the extent and nature of the regulatory burden imposed on industry. Still, the coalition views these improvements as necessary to develop a unified and coordinated national system for promoting safe transportation practices. In effect, the coalition proposals would create the institutional framework by which to tackle current and upcoming problems in transporting hazardous materials--a framework that does not now exist.

ATTACHMENT 1

State/Local/Industry Coalition Members

(Hazardous Materials Coalition)

The following organizations participated at some point in discussion resulting in the draft legislation submitted to Senator Danforth on October 23, 1985. The presence of an organization's name on this list does not mean that the organization endorsed the legislation prior to, during, or since its submission to Senator Danforth.

Air Transport Association of America
American Nuclear Energy Council
American Petroleum Institute
American Trucking Associations, Inc.
Association of American Railroads
Chemical Manufacturers Association
Compressed Gas Association
The Council for Safe Transportation of Hazardous Articles
Dow Chemical, U.S.A.
Hazardous Materials Advisory Council
National Agricultural Chemicals Association
National Association of Counties
National Association of Governors Highway Safety Representatives
National Association of Towns and Townships
National Conference of State Legislatures
National Governors Association
The National Industrial Traffic League
National League of Cities
National LP-Gas Association
National Paint and Coatings Association
National Tank Truck Carriers, Inc.
Rohm and Haas Company
The Society of Plastics Industry, Inc.
Southern Railway Company
Synthetic Organic Chemical Manufacturers Association
Union Pacific Corporation
U.S. Conference of Mayors

ATTACHMENT 2

Summary of Major Provisions
in proposed
Hazardous Materials Transportation Act Amendments

Purposes

1. Promote public safety by providing increased coordination and greater consistency among laws and regulations;
2. Assist state and local governments to play a major role in preventing accidents by adopting the enforcement of certain federal regulations;
3. Provide greater assistance to state and local governments in responding to accidents through training, technical assistance, and planning grants; and
4. Provide for a nationally uniform regulatory program.

Regulations

1. The Secretary of the Department of Transportation (DOT) shall issue regulations for the safe transportation in commerce of hazardous materials.
2. States and localities may adopt and enforce the regulations.
3. No state can ban the transportation of hazardous materials. (Does not include waste.)
4. As part of its regulations, DOT must adopt inconsistency requirements. State, local, or authority requirements shall be determined to be inconsistent based on whether the requirement:
    - A. inhibits compliance with the federal law;
    - B. imposes an undue burden on interstate commerce;
    - C. is unnecessary to the enhancement of safety in transportation;
    - D. should be applied nationally, not locally;
    - E. poses an obstacle to accomplishing this title;
    - F. is unnecessary to address unique local circumstances; and
    - G. poses an undue burden on safety of citizens of other jurisdictions through which the hazardous materials may be transported.

5. State and local governments would be permitted to adopt routing restrictions, bans, or curfews as long as they are consistent with A-G.

6. Otherwise, except as permitted by law, state and local regulations would be preempted.

7. States and localities can seek a waiver of preemption.

Funding

1. Secretary of DOT shall establish a program to register shippers and carriers of hazardous materials and sellers of hazardous materials containers.

2. Fee will be graduated in two years to not less than $100 nor more than $1,500 per registration per year.

3. After a study, the Secretary of DOT can also impose a fee of $50.00 on sellers of containers.

4. Secretary of DOT shall be permitted to revise the registration fee procedure if it is determined that additional funds are needed.

Prevention and Emergency Response

1. All fees will be held in a Hazardous Materials Transportation Emergency Response Fund, not to last beyond four years from the date of enactment unless extended by Congress.

2. Funds will be available to assist state and local governments in developing and implementing emergency response programs. Eligibility criteria shall include:

   -- designation by state of a lead agency

   -- evidence state has initiated a state-wide emergency response plan

   -- agreement that the state will assume responsibility for assisting local governments in hazardous materials emergency response and planning

   -- demonstration by state that it is willing to consult with the elected officials of smaller governments in the distribution of funds

   -- establishment of an emergency response coordinating council consisting of representatives of state and local governments and industry

   -- demonstration that the state plan has been developed in consultation with industry and local government.

   -- agreement that the state will assume responsibility for

-- agreement that the state will assume responsibility for assisting local governments in emergency response planning and preparedness, and that not less than 50 percent of the state's funds shall be used to make emergency response grants to local governments.

3. Funds will be allotted to states based on a formula with five funding guidelines (highway mileage; railroad track mileage; number of commercial vehicles over 10,000 lbs., miles traveled by commercial vehicles over 10,000 lbs., 1980 population).

4. The Secretary of DOT shall undertake a study to determine the traffic flow of hazardous materials.

5. The Secretary shall develop certification procedures for training programs.

Other

States participating in the fund must provide satisfactory assurances that a permit, registration, licensing or similar program will not be imposed by the state for purposes of enforcing Federal hazardous material regulations, except that should a state allocate monies authorized under this section to a local government or an authority, the local government or authority must provide assurance that it is not and will not impose a permit, registration, licensing, or similar program for purposes of enforcement of federal hazardous materials regulations.

ATTACHMENT 3

Summary of Surveys on Hazardous Materials

The following brief discussion of completed, ongoing, or proposed surveys is the result of a request by the Preparedness Committee of the National Response Team. The Committee is concerned, as are others, with the proliferation of questionnaires and surveys currently being thrust upon recipients at the State and local level of government. All of the surveys are related to state and local hazardous materials planning and preparedness. This list represents only known surveys and/or questionnaires.

1. FEMA/DOT Study: FEMA and DOT are required by P.L. 98-559 to evaluate training programs for hazardous materials transportation and emergency response and planning programs of Federal, State and local agencies, and private organizations. The data gathering is being accomplished through use of a questionnaire. Survey will be completed in December 1985.

2. HICA/MYDP: FEMA, as part of their Integrated Emergency Management Systems (IEMS), developed the Hazard Identification, Capability Assessment, and Multi-Year Development Plan to establish a nationwide data base for determining the status of emergency preparedness and the impact of FEMA funds on State and local emergency management operations.

3. NRT/RRT Survey: The National Response Team, as part of a program to assess oil and hazardous substances response preparedness, asked the Regional Response Team CoChairs to complete an extensive questionnaire. The questionnaire provides a snapshot of general trends in existing response capabilities at all levels of government. The results and analysis of the survey were completed in September, 1985.

4. OTA/Study: The Office of Technology Assessment is working on a request by Congress to study training issues, primarily concentrating on what the Federal government has done and is doing with regard to training. From the State and local perspective, they used a survey conducted by the International Association of Fire Chiefs. For other data needs, the OTA used parts of the FEMA/DOT Study as a base for analysis. The OTA has completed the final draft of their study. It is currently in circulation for review and comment.

5. IAFC: The International Association of Fire Chiefs recently completed a questionnaire and allowed the Office of Technology Assessment use of the data in their study.

6. Energy and Environment Study Conference: The Congressional Energy and Environment study Conference assigned their staff the responsibility of developing a questionnaire. The study conference is sending the survey to a select number of Congressional districts to assess emergency preparedness in that district.

7. HMAC: The Hazardous Materials Advisory Council has completed a survey of their membership to assess training programs conducted by their members.

8. NCCEM: The National Coordinating Committee for Emergency Management has distributed a questionnaire in coordination with FEMA and is now receiving the results.

Senator EXON. Gentlemen, we thank both of you very much. You have repeated and brought out in a more forthright manner some of the concerns that this Senator and other Members of our Subcommittee have with regard to rural America.

Of course, when you get into major population centers, you potentially expose more people to an accident, but the facts of the matter are that I would guess that just because of the miles traveled, we are probably more likely to have the highest percentage of our incidents, or call them what you will, accidents, out there in the vast expanses of America. I think, therefore, that this is a major concern.

As you have brought out, the fact that you do not have full-time people there and rely on volunteers makes the solution to deal with the problem that much more difficult.

From the experience that you have had, and I will ask you both this question, how many fire and safety personnel per town or village do you think are required to have this special training that is obviously needed to deal with this problem? From past experience, have those people that have taken training courses been properly equipped? Do they have the proper material to go back and impart their knowledge to others, which so far has been one of the ways that we have been trying to export this knowledge to places that did not have it, to people who might be called upon in the middle of the night sometime in a total surprise to react?

Mr. WHITE. In my community, we have a volunteer fire and rescue service that operates in Greenbelt but under the control of Prince George's County, Maryland. In terms of first response, I think everybody on that volunteer force ought to have basic emergency response training. The county can provide a specialized team, HAZMAT if you will.

The state can play a coordinative role, but those first responders who would be called upon to respond to that truck overturned on the beltway which cuts right through our jurisdiction, a nearby B&O Railroad line which is about a mile away from our boundary, those first responders have to know what to do in various situations, and that can only be done through a basic training course.

I think the Federal role is, as Mr. Schiff mentioned, is certification of that training, the assistance in planning, the assistance in preparedness.

Senator EXON. Are your people at the present time trained as you would like to have them trained, Mr. White, or not?

Mr. WHITE. I think they are doing the best job that they can with the resources that they have, but I think that the OTA report sort of reinforced the finding that when these incidents occur, in a lot of the scenes you will find a lack of coordination, a lack of good information and a lack of good communications.

So I think we have to go a way.

Senator EXON. Mr. Schiff, do you have anything to add?

Mr. SCHIFF. Yes, I would just like to amplify briefly. We agree in substance with everything that Mr. White has said.

I think the point that you brought out should be reiterated, and that is that although there are more people in bigger places, what is happening now in interstate shipments, is that there are many, many restrictions put on the flow of these hazardous materials through the most populated areas, so these shipments are, in fact, being forced out into the areas which are staffed, if you will, by these volunteers.

So, although I agree that there probably does not need to be complete and sophisticated training for every firefighter or emergency response person out there because of the nature of the way we are moving these hazardous materials these days, it does indicate that we really do need to have some basic training because we, in fact, are more and more going to become the first responders in all of these accidents or a great percentage of them.

Senator **Exon**. My last question has to do with training. You brought that out, Mr. White, and you also, Mr. Schiff. In previous testimony I asked the question, is there a basic curriculum or study guide that has been agreed upon? If you are going to teach Economics 101, you have a basic curriculum.

As I understand it, there is no basic curriculum for the education and the imparting of knowledge to many of the people that would have to be there on first instances. Is that accurate from the information and experience that you have had?

Mr. **White**. I do not have that much information specifically regarding a basic curriculum. I am not aware of a basic curriculum being generally available and consistent throughout the country.

Senator **Exon**. Are you, Mr. Schiff?

Mr. **Schiff**. I am not aware of a basic curriculum. I am aware that there are many, many training opportunities, and that is where the problem arises. Our people do not know which are the best, which are the ones to which they should commit their resources.

Senator **Exon**. Thank you.

Senator Adams.

Senator **Adams**. Mr. Schiff, I have just finished again looking at the memorandum of understanding between FEMA and the Department of Transportation, and I have had a little difficulty with FEMA in the past few days on where they ought to be spending their money.

In your statement, you urge that the Department of Transportation be required to register shippers and carriers of hazardous materials and, second, that there be a uniform set of national standards.

Is it your position right now that even though DOT has this authority and has not done so that this Committee ought to legislate that it do so?

Mr. **Schiff**. We believe that that kind of action is imperative if we are going to rely on our small communities to be implementers of Federal policy, to be on the scene first.

Senator **Adams**. In other words, giving regulatory authority, you think, is not good enough, because from your testimony and from the memorandum of understanding and so on, DOT has that authority but just has not or has refused or for whatever reason has not utilized it?

Mr. **Schiff**. That is our understanding.

Senator **Adams**. This goes to the question of Senator Exon. Would you require that drivers be particularly and specially registered or licensed for the carrying of hazardous materials?

Mr. SCHIFF. It is part of the national association's policy to call for the certification of drivers of hazardous materials shipments.

Senator ADAMS. That is a license, is it not?

Mr. SCHIFF. Yes.

Senator ADAMS. When you were talking about funding this, who were you going to put the charge on; just those who are handling hazardous materials as this registration or license fee, or was it going to go on all drivers of interstate commerce?

Mr. SCHIFF. For several years we and the National League of Cities and other organizations representing local government were working with the industry on the idea of how to self-fund such a system. It would have been a registration fee on the shippers, the manufacturers and the packagers of hazardous materials.

It would be administered by the Department of Transportation, and then the bulk of the money would go back to the states and a guaranteed portion of it directly to local government so that they could, in fact, afford the training and the sophisticated equipment, if that is what we want our local governments to do.

Senator ADAMS. This is my last question. The difference between licensing and certification is that if your local authorities pick up somebody, they can look at a license, but with a certification, how are you going to find out about it? Do you have a way? Which do you want?

I do not want to put words in your mouth, but Mr. White, Mr. Schiff, if the Committee were to propose something like that, what would you like to see legislated? Would you want a driver with a license, or would you want some certification?

I asked the other questions, and we will amplify them in writing because the Chairman wants to move along, and, of course, so do I; but I would like to hear you orally respond, and we will follow up.

Mr. WHITE. I think that the licensing would be the more stringent approach and most suitable for what we are trying to accomplish. So I would believe that that would be the preferable way.

Senator ADAMS. Mr. Schiff.

Mr. SCHIFF. A license.

Senator ADAMS. Thank you, Mr. Chairman.

Senator EXON. Thank you, Senator Adams.

Gentlemen, thank you very much. You have been very helpful, and you are excused.

We will call the next panel. The next panel is the panel of hazardous materials shippers: Mr. Keith Bunting of Dow Chemical, on behalf of the Chemical Manufacturers Association; Mr. Ed Olmo, Shell Oil Company, on behalf of the American Petroleum Institute; and Mr. J. Andrew Doyle, Counsel, National Paint and Coatings Association.

Gentlemen, if you will come forward, please. We first want to welcome you and thank you for coming here this morning to help us out on our deliberations on this very important matter.

Your formal records, without objection, will be entered as part of the record. I would ask each of you to summarize at this time.

Do you have any choice as to who goes first? Mr. Doyle, we will start with you.

STATEMENTS OF J. ANDREW DOYLE, COUNSEL, NATIONAL PAINT AND COATINGS ASSOCIATION; ED D. OLMO, SHELL OIL CO., ON BEHALF OF THE AMERICAN PETROLEUM INSTITUTE; AND KEITH J. BUNTING, DOW CHEMICAL, ON BEHALF OF THE CHEMICAL MANUFACTURERS ASSOCIATION

Mr. DOYLE. Thank you, Senator.

Good morning, Mr. Chairman and Members of the Subcommittee. My name is Andy Doyle. I am counsel for the National Paint and Coatings Association. NPCA appreciates the opportunity to present the views of the industry.

Mr. Chairman, many issues are raised when one begins to debate the effectiveness of the Hazardous Materials Transportation Act. Issues such as prenotification, routing, emergency response and uniformity immediately come to mind. In the interest of time, however, I will confine my remarks today to the issue of uniformity of Federal, State and local hazardous materials transportation regulations. In doing so, I would like to begin by briefly describing an ongoing problem that emphasizes our contention that the current uniformity provisions in the HMTA are ambiguous and need strengthening.

At present, NPCA is involved in protracted litigation with the City of New York. The central question in this case is whether the City of New York may impose regulations upon shippers and carriers which are different from and conflicting with the U.S. DOT's hazardous materials regulations without first submitting an application for a waiver of inconsistency as provided for in section 112(b) of the HMTA.

At issue is whether a local jurisdiction has the right under a well-defined national regulatory scheme to arbitrarily declare the Federal Government's regulations inadequate and proceed to construct regulations so conflicting and different that they result in prohibiting shipments of hazardous materials which are in full compliance with federally mandated requirements.

Unfortunately, the HMTA has been largely ineffective in assisting the courts in resolutions of cases of this type. As a result, industry is faced with an increasingly complex patchwork of multiple, diverse and sometimes inconsistent regulations. Although each locality believes its particular regulations to be reasonable, when taken together they add up to a substantial burden on industry without increasing safety.

Valuable time and money has been wasted in litigation where decisive legislation is more appropriate. It is NPCA's firm belief that the HMTA needs to be amended to provide for clearer and stronger uniformity. A clear and strong expression by Congress in the HMTA that definitively establishes the Federal role in promulgating hazardous materials transportation regulations is the only way to insure that an effective national program to promote the safe transportation of hazardous materials is achieved.

This subject is an extremely important one to the paint and coatings industry and one that deserves careful scrutiny. NPCA appreciates the opportunity to testify today and welcomes any requests from this Subcommittee for further assistance or discussions on this matter, and I would be happy to respond to any questions you may have.

[The following information was subsequently received for the record:]

June 22, 1987

The Honorable Ernest F. Hollings
Chairman, Committee on Commerce
Science and Transportation
Washington, D. C. 20510-6125

Dear Senator Hollings:

This is in response to your letter of June 5, 1987, requesting responses to questions posed by Senator J. James Exon and Senator Robert W. Kasten.

Questions from Senator J. James Exon

Question 1. It has been suggested that a federal registration system for shippers and carriers of hazardous materials could provide additional information on the movement of hazardous materials. The inclusion of fees in such a registration program could be one source of funding for training for local first responders and emergency programs. Would you elaborate on your views regarding such a proposal.

Answer to Question 1.

It is generally agreed that there currently exists a lack of consistency and uniformity in training for emergency response. Probably, where it is most lacking is in the area of first responder training. For the past four years, the paint and coatings industry has been publicly in support of a Federal program that would provide grants to States and localities for the purpose training first responders. The key question, however, is what type of funding mechanism should be established to carry out such a program. Inherent in the answer to this question is what industry, carriers, shippers and others alike, receive in return for establishing such a fund. At present, there are numerous State and local jurisdictions that have established registration or permitting fees. The uses of these fees vary from jurisdiction to jurisdiction. Some jurisdictions use the fees collected to administer State or local programs designed to enforce Federal, State or local hazardous materials transportation regulations. Others use the fees to set up emergency response programs while still others use the fee for administering both enforcement and emergency response. The cost of these registration or permit fees can range anywhere from $25 per vehicle to $600 per vehicle. Unfortunately, these varying State or local fees are extracting a significant economic toll from industry while not providing the nation as a whole the minimum level of protection needed in the event of a hazardous materials incident. Accordingly, the paint and coatings industry believes that a Federal funding mechanism ought to be established to increase the minimum level of capability in responding to a hazardous materials incident. Such a mechanism could reasonably be established through a registration fee. However, it is important that any funding mechanism take precedence over State or locally established fees intended for the same purpose. For example, if the Commonwealth State of Virginia had a permitting fee of $100 per vehicle for the purpose of establishing a fund for emergency response training, it could not receive Federal grant money for the same purpose unless it was willing to drop its fee requirement and adhere strictly to the Federally promulgated set of hazardous materials regulations. This "quid pro quo" would assure industry that an equitable system has been established and that it is not paying twice for the same service.

Finally, any registration fee must be broad based and include all contributing industries that profit from the transport or manufacture of hazardous materials. It is essential that all potential beneficiaries of a Federally established emergency response training program be required to pay their fair share.

Question 2. Does the shipping industry maintain current information on carrier safety records and emergency response capability, and if so, how is this information utilized?

Answer to Question 2.

Yes. Most paint and coatings manufacturers monitor their carriers safety and emergency response records. Generally, information concerning a carriers safety record will play a major role in a shippers decision whether or not that carrier is used. Although rates continue to be a determining factor in carrier selection, shippers are increasingly aware that the safety record of their carriers not only impacts upon the potential for incidents but also on the economic performance of the manufacturer.

Questions from Senator Robert W. Kasten

Question 1. Is definition of federal, state and local government jurisdiction the central issue in your opinion? What about providing central responsibility among the federal agencies other hazmat regulations. Should RSPA haves the lead?

Answer to Question 1.

The issue of primary importance to the paint and coatings industry is that of uniformity of hazardous materials transportation regulations. As originally contemplated, the Hazardous Materials Transportation Act of 1974 was intended to provide a system for the establishment of uniform and consistent National hazardous materials transportation regulations. As set forth in Section 112(a) of the Act, States and localities which promulgate inconsistent regulations with those of the U.S. DOT shall be preempted. Unfortunately, over the last 13 years the courts have misconstrued the meaning of the word "inconsistent: leaving a myriad of conflicting State and local requirements which can serve to impede interstate commerce and in some cases actually diminish safety (see NPCA testimony April 24, 1987). The paint and coatings industry does, however, recognize that the proliferation of these differing State and local requirements is based on a perception by States and localities that the U.S. DOT's regulations are not adequate to meet local needs. Furthermore, many of these jurisdictions do not have sufficient economic resources to adequately enforce the existing requirements or to respond to a hazardous materials incident. Therefore, these jurisdictions believe that their only solution is to promulgate regulations that (1) prohibit the movement of hazardous materials or (2) so severely restrict their movement as to make it economically impossible to meet the requirements.

As a result, what is truly needed is a strong Federal program that clearly and definitively preempts States and localities in the area of promulgating hazardous materials transportation regulations. The agency that maintains the most expertise in this area is the RSPA. It should be given full responsibility to carry out the directives established by Congress in the HMTA. Moreover, the States and localities should be given the responsibility of enforcing the Federally mandated requirements. Finally, adequate funding should be provided, through Federal grants, to support comprehensive enforcement and emergency response programs.

Question 2. You indicate support for federal funding assistance for state and local emergency response training. Do you support a registration fee or do you have another funding source in mind?

Answer to Question 2. (See also Answer to Question 1 of Senator J. James Exon).

Federally funded emergency response training is crucial if States and localities are to feel comfortable with a Federal program that prohibits them from promulgating regulations in this area. The registration fee appears, at this time, to be the most equitable method of establishing a fund. However, the fee must not be borne by any one industry. All participants in the hazardous materials transportation community must be required to pay in. The carrier and shipper industries must not be solely responsible for the funding of such a program.

I hope this information is helpful in your deliberations. If I can be of further assistance, please don't hesitate to contact me.

Very truly yours,

J. Andrew Doyle
Counsel

Senator Exon. Thank you, Mr. Doyle.

Let us go to Mr. Olmo now, please.

Mr. Olmo. Mr. Chairman and Members of the subcommittee, I appreciate the opportunity to appear today on behalf of the American Petroleum Institute. The safe transportation of petroleum and petroleum products by highway, rail, water and pipeline is of primary concern to API member companies. Since the enactment of the Hazardous Materials Transportation Act in 1975, API has played an active role in the development of hazardous materials regulations under the Act and, more recently, in the call for improvements and refinements to the Act.

Clear, consistent and uniform regulation of hazardous materials transportation benefits all parties, the public, local and State governments, emergency response personnel, shippers and carriers. This concept is highlighted throughout the Office of Technology Assessment's Report on hazardous materials transportation which your Subcommittee is reviewing. It is the concept we wish to discuss with you today.

Specifically, we would like to address regulatory uniformity, enforcement, inconsistency and funding. Our written comments discuss these and other points more fully.

The first is uniformity. Federal, State and local governments share responsibility for protecting life and property from the inherent risks associated with the transportation of hazardous materials. Because the boundaries of Federal, State and local jurisdictions over hazardous materials transportation are ill-defined, conflicting regulations have been enacted. No one benefits from this patchwork of regulations, nor is safety enhanced as a result of it.

The Federal government must have exclusive authority to issue regulations governing what constitutes a hazardous material, the types of containers used to transport them, and how markings or placards must be applied.

Second, on the subject of enforcement, API believes that states and localities must have the primary role in enforcing existing regulations of all transporters of hazardous materials. API, therefore, supports use of Federal funds to help states train enforcement officials. Strict and uniform enforcement of existing regulations by the states and localities will reduce accidents and overall public concern about hazardous materials transportation.

Third, on inconsistency, the states need clear guidelines from the Department of Transportation to determine whether their hazardous materials regulatory proposals are consistent with the Federal regulations. It is clearly in no one's interest to seek judicial relief each time State or local authority to regulate transportation is questioned.

Last, on funding, API can support the establishment of a Federal fund to supplement State and local emergency response training efforts. First, emergency responder training needs must be assessed before any fund is established. Second, there must be uniform Federal regulations over hazardous materials transportation, including guidelines for determining when State and local regulations are inconsistent with Federal regulations. Third, the states must be precluded from establishing funds for the same purpose as the Federal fund.

Mr. Chairman, we hope our testimony will be helpful to this Committee as it considers reauthorization of the Hazardous Materials Transportation Act. As we noted earlier, all parties benefit when hazardous materials regulations are clear, uniform and consistent. Thank you for the opportunity to testify. I would be pleased to try to answer any questions you may have.

[The statement follows:]

STATEMENT ON BEHALF OF THE AMERICAN PETROLEUM INSTITUTE

Mr. Chairman and members of the Subcommittee. My name is Ed Olmo. I am Manager of Land Transportation for Shell Oil Company. I appreciate the opportunity to appear today on behalf of the American Petroleum Institute (API). I serve on several API transportation committees and am API's representative to Secretary Dole's National Hazardous Materials Transportation Advisory Committee.

API is a national trade association with a membership of some 215 companies and 5,000 individuals representing all sectors of the petroleum industry, including the transportation of petroleum and petroleum products. The safe transportation of these commodities by highway, rail, water and pipeline is of primary concern to API. Since enactment of the Hazardous Materials Transportation Act (HMTA) in 1975, API has played an active role in development of regulations under the Act and, more recently, in the call for improvements and refinements to the Act.

Clear, consistent and uniform regulation of hazardous materials transportation is to the benefit of all parties—the public, local and state governments, emergency response personnel, shippers and carriers.

In support of this concept, we would like to take this opportunity to discuss briefly several items of particular interest to API and its members. These items are:

(1) the reauthorization of the Hazardous Materials Transportation Act (HMTA);

(2) the need for uniformity in hazardous materials regulations;

(3) state enforcement of federal hazardous materials transportation regulations;

(4) inconsistency among the states and local governments in relation to federal regulations;

(5) the establishment of an emergency response training fund;

(6) the registration of hazardous materials entities;

(7) driver training programs; and

(8) employee, emergency responder and community right-to-know.

Reauthorization of the HMTA

API supports reauthorization of the HMTA. API also supports amendment of the Act to:

Clearly define the roles of federal, state and local governments;

Establish national uniformity of regulation over hazardous materials transportation

Develop clear statutory language defining the limits within which states and localities can exercise their regulatory rights over hazardous materials without violating the "inconsistency" criteria; and

Assess and finance emergency response training needs.

Hazardous Materials Regulatory Uniformity

Federal, state and local governments share the responsibility for protecting life and property from the inherent risks associated with the transportation of hazardous materials. While the federal government has the responsibility for regulating interstate transportation and intrastate transportation affecting interstate commerce, states retain jurisdiction over strictly intrastate matters. The statutorily ill-defined boundaries of federal and state and local jurisdiction for hazardous materials transportation, however, have resulted in duplicative and conflicting state and local regulations. In addition, it is not uncommon for local jurisdictions to propose hazardous materials transportation regulations because they are unaware of the federal regulations. State and local regulations have taken the form of traffic bans, routing and time of day restrictions, permits, fees, requirements for prenotification of shipments, equipment specifications, special placards, markings and licensing.

API believes that Congress should clearly define the specific roles of each level of government for hazardous materials transportation. Industry has sought national uniform regulations for the last decade. The federal government should have *exclusive* jurisdiction in promulgating regulations in the area of container specifications, operational rules, placarding, commodity classification and definitions. Regulation of hazardous materials transportation must be uniform on a national basis. State adoption of the federal hazardous materials regulations, therefore, is extremely important. A patchwork of local, state and federal regulations is counterproductive to the safe movement of these materials

States and localities have the primary role in responding to hazardous materials transportation emergencies. API strongly supports strict enforcement of the hazardous materials laws and motor carrier regulations by the states. Uniform state enforcement of the existing regulations and laws governing hazardous materials transportation will alleviate many of the concerns over public safety.

API supports the use of federal funds, such as the Motor Carrier Safety Assistance Program, to help states train state law enforcement officials to increase truck inspections and enforce the existing laws. We also support increased funding for the Office of Hazardous Materials in Fiscal Year 1988 to continue assisting the states in developing their hazardous materials enforcement and emergency response capabilities. As pointed out in the Office of Technology Assessment's 1986 report to Congress titled, *Transportation of Hazardous Materials,* "consistent, strong enforcement of hazardous materials regulations is a major accident prevention tool."

Enforcement

The Surface Transportation Assistance Act of 1982 established a grant program to increase and coordinate the role of states in motor carrier safety. Under the Motor Carrier Safety Assistance Program, any state that agrees to adopt and enforce the federal motor carrier regulations and the hazardous materials regulations may be reimbursed up to 80 percent of the cost of upgrading its current motor carriers program. Most states have adopted some form of regulation over hazardous materials transportation and are receiving federal funds.

API supports unilateral state adoption of the federal regulations and strict state enforcement of those regulations on all transporters of hazardous materials. We believe that states should perform roadside inspection of all motor carriers and terminal audits of carriers domiciled in their state based on existing uniform federal inspection criteria. In turn, inspection and enforcement information can be supplied by the states to the federal government to allow it to better target high-risk and problem motor carriers.

Inconsistency

The Department of Transportation (DOT) needs to define the criteria for determining whether a state or local proposal involving hazardous materials transportation is consistent with the federal hazardous materials transportation regulations. DOT must provide guidelines for identifying unique local situations, where different or specialized local hazardous materials regulations might be justified based on unique local circumstances.

DOT must also exercise greater leadership under HMTA to review state and local ordinances which appear to be inconsistent with the federal regime—before private parties are forced to seek judicial relief from state and local ordinances.

The HMTA already gives the secretary of transportation authority to preempt inconsistent state and local regulations. However, the process by which inconsistency rulings are developed does not work well. Currently, where state or local laws are found to be inconsistent with the federal regulation, inconsistency rulings are purely advisory in nature and are subject to judicial review. API believes that many of the existing inconsistency cases could be avoided, for example, in uniform routing guidelines or standards could be proposed by the federal government for the states to use in implementing state plans and, in turn, for states to use in reviewing local governments' routing ordinances.

API does not endorse the concept of routing, *per se.* Routing is one of many tools available to the government for promoting the safe transportation of hazardous materials. Routing has the propensity to transfer risks to adjoining communities and increase transportation costs. API believes that routing should be used only when other mechanisms have proven inadequate for safety purposes. However, we acknowledge that state and local jurisdictions will continue to pass routing restrictions in the absence of uniform federal guidelines. Mandatory federal routing guidelines would bring uniformity to local routing decisions. By providing localities with specific factors that must be considered if routing is selected over other mechanisms to promote safe transportation, ill-conceived unilateral routing ordinances will be discouraged. This is true particularly if consultation with adjacent jurisdictions and all parties affected by the proposed routing regulations is required under the federal guidelines or if the localities are required to take into consideration the different degrees of product hazard in proposing routing.

Fund

API's support of a federal fund to supplement state and local emergency response training efforts has been and continues to be conditioned on several factors. Our support for the concept of an emergency response fund is dependent upon federal regulatory uniformity over hazardous materials transportation. That uniformity is important in three areas:

First, the on-going proliferation of inconsistent and burdensome state and local regulations over transportation points to the inadequacies of the existing statute. Therefore, API can only support the establishment of a federal fund if a uniform federal regulatory regime over hazardous materials transportation is legislated and there is a clear delineation of lines of responsibility between federal and state governments. This includes federal guidelines for determining when state and local proposals are "inconsistent" with federal regulations.

Second, if funding is made available to financially assist state governments in hazardous materials emergency preparedness, the states must be willing to relinquish the right to also levy specific fees for hazardous materials emergency response projects. State hazardous materials emergency response fees and funds cannot be permitted to co-exist with a federal emergency response fund established for the same purposes.

Third, the training needs and total number of emergency responders, firefighters, police and emergency medical personnel should be assessed before establishment of any fund, in order to determine its size and its specific purposes. In addition, national standardized training guidelines for course scope and content should be developed for different levels of local emergency response and enforcement personnel. DOT or a national consensus standards organization, such as the National Fire Protection Association, could develop training standards for the first responders, as well as for members of specialty hazardous materials response teams.

Registration

A registration program could help DOT identify the flow of hazardous materials, direct enforcement efforts and provide emergency response planning. The Department of Transportation does not have data on the total number of hazardous materials shipments, their volume, origin, destinations or modal distribution. Moreover, the identity or number of hazardous materials shippers, carriers and container manufacturers is unknown to DOT.

The Research and Special Programs Administration (RSPA) is studying the feasibility of registering hazardous materials shippers and carriers. RSPA's study is to determine if and what safety improvements can be expected from registration and if those improvements would outweigh the burdens of registration. A registration system could be supported by API, if its purpose is more than a census exercise and would not entail significant costs—monetary or recordkeeping—to government and industry. The secretary of transportation already is empowered by the HMTA to implement a registration program.

Driver Training

API supports federal programs designed to require alcohol and drug testing of transportation personnel whose job performance directly affects public safety, that is, airline pilots, rail engineers and truck drivers. We are concerned, however, over the current drug test accuracy levels. API has submitted comments to the U.S. Department of Transportation in support of a mandatory drug test in conjunction with the driver's biannual physical examination. Many API member companies have already instituted alcohol and drug testing programs, which include pre-employment screening, annual testing, probable cause and mandatory post-accident drug testing.

API also supports the congressional mandate under the Commercial Motor Vehicle Safety Act requiring the secretary of transportation to issue minimum federal standards to ensure that individuals are qualified to operate commercail motor vehicles in accordance with all regulations pertaining to the motor vehicle transportation of hazardous materials.

API member companies have developed extensive in-house hazardous materials training programs for their drivers. These training programs cover such subjects as driving safety, loading, unloading, vehicle pre-trip inspection, emergency response and accident procedures. API members also utilize outside training resources, such as the Texas A&M University Tank Truck Emergency Response training program and the Fire Protection Academy at the University of Nevada-Reno, for advanced training in the handling of hazardous materials transportation emergencies.

Employee Right-to-know

Employers have a responsibility to educate employees about the nature and extent of potential health risks from exposure to hazardous materials in the workplace. They also have the responsibility to train their employees in safe work practices and emergency procedures. API supports the Occupational Safety and Health Administration Hazard Communication Standard. API also supports reasonable expansion of the scope of the standard to those non-manufacturing sectors where significant risks exist which can be eliminated or mitigated by hazard communications practices.

Emergency Responder Right-to-Know

Emergency response personnel should be informed about both the nature of any substance which might cause or be of concern in an emergency and the form an emergency might take. They should be aware of any special equipment or training that might be needed in an emergency, so that they can make provisions for its procurement. Industry should provide information on these topics in a useful format and cooperate with local governments and local emergency response agencies in disseminating this information and in providing training.

Community Right-to-Know

Implementation of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act) will institutionalize much of the information-gathering process needed by emergency responders for facilities in their jurisdictions. The appointment of state emergency response commissions, establishment of emergency planning districts, identification of facilities within planning districts, preparation of emergency plans and training programs will go a long way towards improving community emergency preparedness.

Mr. Chairman, that concludes our observations on the reauthorization of HMTA. We hope these comments have been helpful to the Committee. As we noted earlier, all parties benefit, when hazardous materials regulations are clear, uniform and consistent.

Again, thank you for the opportunity to testify on the reauthorization of HMTA. I will be pleased to try to answer any questions you may have.

[The following information was subsequently received for the record:]

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202-682-8100

Charles J. DiBona
President

June 22, 1987

The Honorable
Ernest F. Hollings
Chairman, Committee on Commerce, Science,
and Transportation
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The following is in response to the comments and questions in your letter of June 5, 1987 addressed to Ed D. Olmo of Shell Oil Company who testified on behalf of the American Petroleum Institute (API) at a hearing on April 24, 1987 before the Surface Transportation Subcommittee on hazardous materials transportation.

1. It has been suggested that a federal registration system for shippers and carriers of hazardous materials could provide additional information on the movement of hazardous materials. The inclusion of fees in such a registration program could be one source of funding for training for local first responders and emergency programs. Would you elaborate on your views regarding such a proposal.

   Registration of entities involved in the transportation of hazardous materials is supported by API. Under Section 106 (b) of the Hazardous Materials Transportation Act (HMTA), U.S.C. 1801, the Secretary of Transportation already has discretionary authority to require the registration of shippers, carriers and container manufacturers. We believe that a pilot program of limited industry registration first should be established, perhaps focusing on the most hazardous of materials, before a full scale government registration program is put in place. A limited registration program could provide information on product flow identification, which in turn could help assess emergency response needs and target resources. API believes that once information on regional flow patterns is available it will be easier to assess emergency response needs and evaluate existing private and public training resources. The results of a limited registration program also will help determine if registration is the best mechanism for obtaining information on hazardous materials flow.

Registration for the sake of registration or for census purposes is opposed by API. For example, the federal government has been criticized for not knowing how many shippers and carriers are involved in the transportation of hazardous materials. Those critical of the government, however, do not explain how this information would aid in focusing the nation's emergency response capabilities. API believes that simply knowing how many entities comprise the hazardous materials community will add little to emergency response preparedness.

API's position regarding funds for emergency response training, as noted by Mr. Olmo on April 24th is as follows. First, before any fund is established it is vital that the training needs of emergency responders be assessed to determine fund size and purpose. Second, nationally uniform regulations over hazardous materials transportation must be maintained. Third, states must be willing to relinquish the right to levy fees on the hazardous materials community for emergency response purposes if a federal fund is established for similar purposes. In summary, API can support a registration program with fees to finance responders' training if we know the population in need of training, what level(s) of training is needed, and where the training is needed most.

2. Does the shipping industry maintain current information on carrier safety records and emergency response capability, and if so, how is this information utilized?

API does not maintain information on carrier safety records or emergency response capabilities for the petroleum shipping industry. However, since the preponderance of hazardous materials highway shipments are short haul trips for gasoline deliveries, knowledge of carrier performance generally is well known in the local delivery area.

In some companies the selection of carriers is more formalized than that stated above. Some shippers are conducting safety reviews of potential carriers prior to the selection of the carriers. This audit process is growing but it is not an industry standard. Some of the companies that perform safety audits on carriers also review the carrier's emergency response capabilities as a condition for selection. Again, because of the short distance of the majority of gasoline shipments it is possible for shippers to provide local emergency response capability.

3. Do you believe state and local governments are willing to give up further authority over the shipment of dangerous goods through their communities in return for emergency response training funds?

In increasing numbers, state and local governments are imposing restrictions on the movement of hazardous materials through their jurisdiction. The exercise of local and state authority over shipments of hazardous materials in the form of fees, permits, prenotification, and routing restriction, is driven by several factors including: 1) the belief that the federal government is not doing enough to protect the public; 2) the need to improve emergency preparedness and response to hazardous materials incidents; 3) the need to raise revenues; and, 4) political pressures to export hazardous materials traffic elsewhere.

API believes that state and local governments are willing to give up a certain degree of regulatory authority over hazardous materials transportation in exchange for additional resources for public safety protection and emergency preparedness resources.

API believes that in addition to emergency response funds, local and state governments would like to see a greater federal role (e.g. grants) to help enforce the federal hazardous materials and motor carriers safety regulations at the local level and in establishing clear guidelines delineating the scope of state and federal regulatory authority for hazardous materials transportation. These two principles, in fact, have been major tenets of the so-called Hazardous Materials Coalition, whose members include both private and public sector organizations.

4. Would you support a registration fee to create a training fund?

API could support a registration fee for a training fund under the conditions outlined in our response to the first question.

5. Does API believe that present levels of drug and alcohol abuse in the transportation field present a serious threat to safe transportation of hazardous materials? Do you support legislation recently sent to the Senate by this committee which would require random drug and alcohol testing as a deterrent to substance abuse on the job?

API believes that drug and alcohol use presents a serious threat to safe transportation, as well as to many other aspects of society. API supports the drug testing efforts of its members. In the area of highway transportation, API supports mandatory drug testing in conjunction with the federally required biannual commercial motor vehicle driver physical. Additionally, we believe that federally mandated random alcohol and drug testing may be the only way to assure that uniform random testing programs will be implemented.

API supports the intent of the bill, S. 1041, reported by the Senate Commerce Committee on March 10, 1987. We are concerned, however, that the bill's post accident drug testing requirements for the truck driver involved in an accident do not apply equally to other drivers involved in the accident. API also has concerns on the actual administration of random roadside drug tests.

API appreciates the opportunity to provide additional information to the committee as it deliberates the reauthorization of the Hazardous Materials Transportation Act. If we can be of any further assistance on this matter please contact us.

Sincerely,

Senator EXON. Thank you very much, Mr. Olmo.

Mr. Bunting, would you please proceed?

Mr. BUNTING. Mr. Chairman, Members of the Committee, my name is Keith Bunting, and I am the Manager of Distribution, Government and Public Affairs, Hazardous Materials Regulations, for Dow Chemical Company USA. I am here today representing the Chemical Manufacturers Association in my capacity as the incoming chairman of its Distribution Committee. CMA is a nonprofit trade association whose company members represent more than 90 percent of the productive capacity of basic industrial chemicals within this country.

The CMA is very concerned that the Federal government is losing its role in regulating the transportation of hazardous materials. There have been an increasing number of State and local jurisdictions that have adopted requirements which reduce rather than enhance overall hazardous materials transportation safety. We have difficulty learning the uncoordinated mixture of differing State and local restrictions and, therefore, even more difficulty complying with these regulations.

We do believe, however, that State and local governments must be active participants in the Federal regulatory process. Their involvement is essential to maintaining the present high level of safety. The states can make a major contribution toward reducing accidents by enforcing Federal safety requirements.

Routing is another area where State and local jurisdictions should play a role. The Federal government should establish the parameters, and State and local officials should apply those guidelines to routes within their jurisdiction. By maintaining a high degree of coordination and control over the process, the Federal government will insure that jurisdictional conflicts are kept to a minimum, and this will enhance safety.

The chemical industry will continue to develop procedures and do everything possible to prevent accidents. Since accidents can happen, we agree that there is a need for emergency responders to be properly prepared to handle such events.

CMA believes it is important to quantify the needs of emergency responders. A mechanism is now available to develop this information through the implementation of Title III of the Super Fund Amendment. State and regional emergency response planning commissions should, with the assistance of industry and the Federal government, assess the current level of emergency response preparedness and identify the areas where additional assistance is needed. Until this information is gathered and analyzed, it would be premature to establish a special Federal fund for training.

CMA has taken a lead role in promoting hazardous materials transportation safety and in providing assistance to State and local emergency responders. Efforts such as our motor carrier safety survey program, our rail tank car inspection program and improvements to the design of tank cars have played a significant role in such improvement.

CMA's National Chemical Response and Information Center and the Community Awareness and Emergency Response Program have made major contributions to emergency preparedness. Through our lending library of video training programs, over 151,000 emergency responders have received instruction on how to properly handle a chemical accident.

CMA's CHEMTREC system has provided tremendous assistance to emergency responders for over 15 years. We will continue to strive to improve the ability of emergency responders to handle accidents properly, and we would encourage other organizations to do the same.

Unfortunately, in the allotted time we cannot explain all the activities the chemical industry is offering through CMA to train and assist those who deal with hazardous materials transportation incidents. Our written testimony provides details of our programs. I hope you will gain an appreciation of the chemical industry's commitment to transport safely by reviewing our statement.

We appreciate this opportunity to participate. We will be glad to answer any questions.

[The following information was subsequently received for the record:]

CMA

CHEMICAL MANUFACTURERS ASSOCIATION

ROBERT A. ROLAND
President

June 23, 1987

The Honorable Ernest F. Hollings
Chairman
Committee on Commerce, Science
 and Transportation
United States Senate
Washington, D.C. 20510-6125

Dear Mr. Chairman:

The Chemical Manufacturers Association commends your Committee's efforts to ensure that hazardous materials continue to be transported safely throughout the United States. We appreciate the opportunity to participate in the Hazardous Materials Transportation Act reauthorization process. CMA is confident that the federal government, working with industry and other levels of government, can ensure that safety remains at its current high level.

In your letter of June 5, 1987, to Keith Bunting of Dow Chemical Company, you asked for responses to questions from Senator Exon and Senator Kasten. My staff and I have collaborated with Mr. Bunting and offer the following responses.

Questions from Senator J. James Exon

1. Registration and Funding for Emergency Response Training -- Under existing law, DOT is authorized to develop a registration program. CMA does not object to the federal government developing such a program for shippers, carriers, and distributors of hazardous materials, as well as for manufacturers of containers used to transport hazardous materials. However, because the universe of affected parties is extremely large, ranging from major chemical companies and railroads to farmers transporting pesticides, we believe that to enhance compliance any registration program must be kept simple.

The information developed from a federal registration program could be helpful to federal, state and local enforcement personnel in their efforts to ensure a high level of compliance with the federal safety requirements. Such a program would also reduce the need for state and local hazardous materials registration programs.

If the Congress decides that it is important to develop information on where hazardous materials are being transported, CMA recommends that the focus of such a study be limited to certain high hazard products. To try to collect information on the movement of all hazardous materials would be an enormous task, and would not enhance safety. For instance, the OTA report correctly notes that shipments of gasoline are responsible for most of the incidents involving hazardous materials. Every community with a gas station is exposed to this traffic. We see little benefit from operators of the vehicles carrying these shipments notifying DOT of an intended movement. We see a much greater benefit if the federal government would work with state and local authorities, as well as industry, to form routing guidelines that are practicable and will contribute to safety.

Regarding funding for emergency response training, CMA firmly believes that the overall needs of the nation should be adequately assessed before a special fund is established. Much of the emergency response training problem can be solved through better coordination of existing resources. For example, CMA and its member companies have made major contributions to the emergency services. Our Community Awareness and Emergency Response Program has been instrumental in building effective emergency response contingency plans in hundreds of communities throughout the United States. CMA's National Chemical Response and Information Center has provided training, equipment, and expert technical assistance to the emergency response community. We believe these resources should be considered when the needs of emergency responders are being assessed.

2. High number of violations found by state inspectors -- One of the reasons there is such a high percentage of violations found by state inspectors is the method used to determine which vehicles will be inspected. Typically, vehicle inspectors use a "look and listen" approach to pulling vehicles over for inspection. Under this approach a vehicle that looks or sounds like it is not in good shape will be selected over one that appears to be in fine condition. The chemical industry supports this method of selection because it is more likely to identify a vehicle that could lead to problems. We only take exception to viewing the inspection statistics as being representative of all trucks.

The chemical industry is working to augment the efforts of federal and state safety enforcement personnel. CMA has helped develop the Motor Carrier Safety Survey Program. Under this program individual chemical shippers review motor carrier safety programs, and, where necessary, work with carriers to improve their safety programs.

Another program that we are very encouraged by is the vehicle inspection system operated by the Commercial Vehicle Safety Alliance. This group of state enforcement representatives has developed a means of inspecting a great number of motor vehicles for safety defects. They use a critical items check list which reduces the time it takes to inspect a truck, and they have established a vehicle identification process that will tell their inspectors whether a particular vehicle has been inspected in the prior three months. A color coded decal is affixed to the vehicle once it passes a safety inspection. The color of the decal is changed each quarter, and inspectors will not reinspect a vehicle during that quarter, unless something is obviously malfunctioning. In this way more vehicles are inspected, thereby reducing the number of unsafe trucks operating on the roads.

3. Information on carrier safety records and emergency response capability -- As indicated earlier, CMA member companies gather information about carrier safety records on an individual basis. We strongly urge our membership to scrutinize the commitment carriers make to the safe transportation of hazardous materials. CMA does not collect, maintain or disseminate any information on individual carrier safety performance.

The Department of Transportation is currently auditing the safety records of motor carriers. We applaud this effort, and urge Congress to continue to support DOT's carrier review process.

CMA has collected information relative to the numbers of emergency responders that have been trained by the videos available through our lending library. As of June 5, 1987, 168,300 emergency responders have viewed the tapes. This figure represents only those that have received the training tapes directly through CMA. Since we encourage groups to duplicate the programs, the number of emergency responders that have benefited from these training materials is probably much higher.

So far, approximately 600 communities have enhanced their emergency response contingency plans as a result of the chemical industry's participation in the Community Awareness and Emergency Response (CAER) program. Approximately two hundred of these communities have conducted full-fledged demonstrations of their emergency response capabilities.

Questions from Senator Robert W. Kasten

1. CAER participation and costs -- The Chemical industry's Community Awareness and Emergency Response (CAER) program is available to any interested private or public sector organization at no charge. Thus far, several organizations have joined the chemical industry in encouraging their members to work with local community officials to improve emergency response capabilities through the CAER program. These organizations include: the U.S. Chamber of Commerce; the American Red Cross; The Chlorine Institute; the Medal Finishing Suppliers; the American Trucking Associations; the Association of American Railroads, and the General Federation of Women's Clubs.

CAER goes beyond the borders of the United States. Through CMA's efforts the Canadian Chemical Producers Association has adopted the CAER program for its membership. Also, the European Federation of Chemical Manufacturers and chemical industry associations in Mexico and Brazil have promoted the CAER concept.

To assist participants in implementing CAER, many training resources have been developed by CMA. These include guidance documents and videotapes. Most of these training materials are available at no charge.

2. CHEMTREC participation and costs -- CHEMTREC has served the emergency response community free of charge for nearly sixteen years. It is accessible to anyone who is responding to a chemical emergency. Last year alone approximately 50,000 calls came through the system. Six percent of these calls pertained to transportation emergencies involving hazardous materials. As with the reports to DOT, the majority of these transportation emergencies were minor in scope.

CHEMTREC maintains a data bank of over 3,100 shippers and carriers that can be contacted 24-hours a day, seven days a week. CHEMTREC has a computerized chemical profile for approximately 4,200 chemicals, and Material Safety Data Sheets for 210,000 trade name products. The system can also accommodate physicians who are treating individuals who have been exposed to chemicals by bridging them directly over the phone to chemical company physicians who are familiar with the chemical.

Funding for the CHEMTREC system, currently $1.4 million annually, is handled entirely by CMA's member companies. Emergency responders are not charged for the service, and the other 3,000 shippers and carriers that benefit by the Center's availability do not make any financial contribution to the operation.

3. Federal Cooperation -- CMA has found the representatives from the DOT Research and Special Programs Administration to be capable and cooperative. The regulations governing the transportation of hazardous materials are technical and very complex. As a result, the regulated community often needs timely interpretations that will aid them in their compliance efforts. The staff at DOT has been quite responsive in this area.

An area that could be improved by Congress is the coordination of the federal government's efforts to aid emergency responders. Currently, DOT provides assistance along with the Federal Emergency Management Agency, the Environmental Protection Agency, and the National Institute of Health. Cooperation among these federal agencies has been less than desirable. Designation of a lead federal group, such as the National Response Team, for providing assistance to the emergency response community would be beneficial.

CMA's strongly supports the Subcommittee's efforts to ensure that hazardous materials are transported safely. We appreciate this opportunity to address in greater detail the issues concerning hazardous materials transportation safety.

Should you or other members of the Commerce Committee have any additional questions, please have your staff contact Jim O'Connor at 887-1130.

Sincerely,

Robert A. Roland
President

Senator EXON. Gentlemen, thank you very much. You have been brief and very much to the point.

I recognize that both of you are charged with the responsibility of moving this hazardous material, which is an important part of our industry in the United States. I have some concerns.

If I am hearing you right, you are basically saying that the industry is not totally satisfied with the lack of definition, if you will, of what is hazardous, and probably governments have not done as good a job as they should of in enforcement in this area.

This is certainly a major concern bordering on panic, if you will, as to what we are doing in this area. You have heard some of the statistics that have been advanced in this hearing and the previous one.

What is your overall assessment of the seriousness of the situation today with not only a lack of proper training in the areas where accidents or incidents do occur but the fact that we are hearing continuing complaints about improper placarding on hazardous materials? Could you give me a brief overview as to how you, in the industry, view the seriousness of this situation bordering on alarm, which may be a better word than panic?

Mr. OLMO. I would be happy to attempt to address your question, Senator.

From the standpoint of the petroleum industry, misplacarding or incorrect placarding is almost nonexistent. We ship gasoline primarily. It happens to represent a large proportion of those goods shipped in transit that are hazardous, and it is all described under the number "1203." We have been cited, as an industry, from time to time for having a placard turned upside down, an incorrect application of the placard, and we have had dirty placards, placards that were not clean. In the wintertime in Michigan and other places in the United States, it is not always easy to keep your placards clean.

So, I could see where people might believe the above examples to be incorrect placarding, and, in fact, they are violations of the spirit of the rule not to have your placards displayed correctly and properly. But; I hardly can believe that we would ever describe or placard "gasoline" as "diesel fuel" in transit.

So, I do not think the placarding problem is quite as serious as was indicated by some reports.

Senator EXON. That is in your particular industry?

Mr. OLMO. That is as it relates to the petroleum business, yes, and I am sure Mr. Bunting can address the chemical side.

The system is better than it used to be. In the United States, in my opinion, the height of our concern about the infrastructure existed in the late 1970s or early 1980s when the railroads were incapable of funding the maintenance of their systems and, for states like yours, were not reestablishing the maintenance of their railroads. Thanks to you and other people, and I think Mr. Adams particularly, the Staggers Act was passed. The railroads have been able to put themselves back in a financial position where they can maintain their system appropriately.

We find, and I think the chemical association members also find, that the rail system today is substantially safer from the standpoint of the way hazardous materials are handled. So in that regard, I think we are better off now than we were in the late 1970s or early 1980s.

Trucking presents a problem. There are many truckers, and there are many shippers who use trucks. There are always going to be some bad shippers who will use the least cost system as a matter of judgment. We do not think that is right. We think that the first consideration for transportation should be safety, and the second consideration should be service. The last consideration should be cost, but you are always going to find in a competitive industry some people on the fringes.

We think that its getting better, and we think people are becoming more aware of the shipper's responsibility to judge when he is using a good carrier. We feel very strongly that that is part of the key responsibilities we have.

Senator EXON. My time is about up. Do you have a comment?

Mr. DOYLE. Yes, Mr. Chairman. I think, to address your question somewhat indirectly and not to address the placarding issue, because unlike the petroleum industry, in the paint and coatings industry there are a limited number of placards. It seems to me that they are being used correctly at this point in time.

In our discussions, however, with the State and local public interests groups, the associations that represent the State legislators or the National League of Cities, the problem that we are facing is a consistency problem and a uniformity problem. It is very much tied into the perception of the State and local governments that the U.S. DOT is not doing the proper job in terms of regulating transportation of hazardous materials.

They feel that their only choice in that matter is to promulgate regulations which they deem are safer than those ones being promulgated by the U.S. DOT. So that raises the question about enforcement personnel and funding for enforcement at the State and local level.

We feel as an industry that that is an extremely important issue, one that needs to be addressed, one that needs to channel more funds to the State and local association, State and local governments, to potentially alleviate the concept of promulgating differing and conflicting legislation at the State and local level.

Senator EXON. Mr. Bunting, you are out of time. I do not know whether that is good or bad news for you, but I would like to have your response, and then I will yield to Senator Adams.

Mr. BUNTING. If I might make just one quick comment. Our feeling in the chemical industry is that we really have, for the most part, sufficient regulation. What we need is enforcement of the regulation that we have. We can live with one set of well thought out, evenhandedly enforced regulations in this country, and we would like to see those regulations enforced.

Senator EXON. Thank you, Mr. Bunting.

Senator Adams.

Senator ADAMS. I appreciate, incidentally, the efforts that have been made in the industry. I feel that a great deal has been done in an attempt to try to do this, but we are dealing with the fringe areas and the fringe elements, particularly in your industry, Mr. Bunting, because you have a number of different materials, and that is where placarding becomes very important.

Gasoline is something about which most people have some understanding, but sodium nitrate or various kinds of propane or chlorine make a difference.

Now, it was testified earlier that the Department of Transportation has the regulatory authority to register shippers and carriers of hazardous materials but has not done it. It also was testified earlier on the same line you stated that there ought to be a uniform set of national standards.

Now, I want to know whether you want this put in legislation or you want regulatory authority granted. I have a very, very bad taste in my mouth about regulatory authority moving through the Department of Transportation. It takes a long time, and it does not happen. We are talking about some very simple things. We are talking about registration of carriers, licensing, and a uniform standard.

Would you prefer that we press in this legislation for regulatory authority or that we draw out certain specifics and state them, because then they would be preemptive? Whichever of you wants to take that.

Mr. DOYLE. Senator, may I address that? I think that right now, as you well know, under the HMTA there is preemption language set forth. In our opinion, however, in the opinion of the paint and coatings industry, it is sufficiently ambiguous to create a situation whereby it really does no good when you try to use that preemption language in a court of law.

So in terms of the preemption or inconsistency or uniformity issue, we as an industry would rather see a strengthening in the legislation itself that gives clear direction to the courts where the roles of the Federal government and the State and local governments come in.

It has been our experience over the last five or six years that the current operation of the HMTA is insufficient in resolving these disputes. Not a simple word change but a clear indication of Congressional intent in the legislation itself, I think, is definitely needed.

Mr. OLMO. API would support that same statement.

Mr. BUNTING. CMA would also support that statement. It is well stated.

Senator ADAMS. Mr. Olmo. I think you were the one who testified about the emergency planning community right to know under Title III of the Superfund.

Would you like in this kind of legislation a community right to know? I think it would have to be carefully drafted. I am not talking about each random shipment but basic routing for materials based upon some of the problems we have heard with both the small towns and with individual jurisdictional routing requirements.

Mr. OLMO. We think the legislation that you might propose would be enhanced by right to know aspects. Certainly emergency responders have a right to know what is in transit in communities. First responders, as was testified to earlier, simply do not know enough.

We think everyone has a right to know about the hazards in the community, including the community where they are stored and how they move. So right to know ought to be a part of your legislation.

How you accomplish the data gathering necessary so that everybody knows everything, about everything, on line, all the time that could be very dangerous to attempt, to go so deeply.

Senator ADAMS. I am not trying to create perfection here, but there are certain basic tools such as licensing of drivers, registration of companies carrying, and establishment of basic routing or timing for particular shipments that can cover an enormous portion of the problem.

I just want to know whether or not you gentlemen support that kind of concept or approach?

Mr. OLMO. We would support definitive licensing of hazardous materials drivers so that we know that the person is completely certified and well trained to handle the hazardous materials transport movement. We have no objection to the registration of who is in the game, who are the people that have hazardous materials, who ships them, who carries them.

As to routing restrictions, I have a little trouble about time of day and——

Senator ADAMS. Well, there are problems. We cannot solve Mr. Doyle's problem on individual jurisdiction doing routing unless you do it Federally.

Mr. OLMO. But I certainly think that Federal guidelines as to routing would be worthwhile, so that everyone then is playing in the same ballpark and using, the same set of rules to understand what kind of routing restrictions can be imposed on the industry.

Mr. DOYLE. We would agree with that.

Senator ADAMS. Thank you, Mr. Chairman.

Senator EXON. Thank you very much, Senator.

Gentlemen, thank you very much. There may be some additional questions that you will receive that we would appreciate your responding to as promptly as you can. Thank you so much for being here to help us out, and you are excused.

We will call the third panel now. There may be a vote on the floor. That is what the lights on the board indicate. In any event, we wish to keep the matter moving, and we will try to rotate our leaving to go to the floor to attend to our duties over there.

The last panel which we will call at this time is the panel of carriers: Mr. William Dempsey, President of the Association of American Railroads; and Mr. John Currie, Director of Safety Department, American Trucking Associations. Mr. Clifford Harvison, the President of the National Tank Truck Carriers was scheduled to testify, however he will be unable to appear, but has submitted testimony which will be included in the record.

Oh, you are here already. Since all of you are expert witnesses who have been here today, you appear more quickly than some of the witnesses before us that have not been here as many times as you have.

We are very pleased to have you here. I know that you have been sitting in the audience listening to the deliberations here, and we are very pleased to have you this morning. If there is no objection, we will start out with the first name on my list. Mr. Dempsey, would you please proceed?

I would simply say that, without objection, your written testimony is accepted and will be made part of the record, and we would ask each of you to summarize at this time.

Mr. Dempsey.

STATEMENTS OF WILLIAM H. DEMPSEY, PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS, ACCOMPANIED BY WILLIAM JOHNSTON, VICE PRESIDENT, OPERATIONS DIVISION, AND JOHN V. CURRIE, DIRECTOR, SAFETY DEPARTMENT, AMERICAN TRUCKING ASSOCIATIONS, INC.

Mr. Dempsey. Mr. Chairman, thank you very much. I have with me Mr. William Johnston, who is Vice President of our Operations Division and who knows a great deal more about this subject than I.

I have a detailed statement, and I will essentially just rest on that statement. I may note that in terms of transportation of hazardous materials, as one of the previous witnesses indicated our record has improved dramatically over the last eight years, due in large measure to the work of the Congress in passing the Staggers Act and other public policy measures.

We have had, for example, a 70-percent reduction in train accidents since 1978. We have just experienced our sixth consecutive year without any fatalities related to the transportation of hazardous materials. Now, that does not mean that we are comfortable. It is obviously a dangerous business in which we are all engaged, but these materials have to be transported. So, as my statement indicates, the industry together with the chemical industry and together with the producer's of rail equipment are devoting enormous efforts to this.

It is late, and you may have rollcall. I will simply rest on my statement and try to answer any questions that you may have.

[The statement follows:]

STATEMENT OF THE ASSOCIATION OF AMERICAN RAILROADS

My name is William H. Dempsey. I am president of the Association of American Railroads, a non-profit association representing all the major freight railroads in the United States. The railroad industry is pleased at the opportunity to describe the excellent safety record of the railroad industry and the dedicated programs under way that will ensure continued safe transportation of hazardous materials by rail.

I. THE RAILROADS' SAFETY RECORD

Recent years have shown a dramatic improvement in rail safety. The improvement is reflected in virtually every category of accident statistics. In testimony before this Subcommittee in February, we noted that from 1978 to 1985 there was a 37-percent reduction in the number of railroad related fatalities, a 53-percent reduction in the number of railroad related injuries, and a 70-percent reduction in train accidents. The increased resources railroads have been devoting to improved railroad facilities, maintenance, and safety programs have yielded welcome safety benefits.

Hazardous materials statistics confirm that the railroads' safety record is bright. In 1986, the railroads transported approximately 925,000 loaded carloads of hazardous materials, plus additional "empty" cars containing residues of hazardous materials. There were only 56 releases from accidents, representing less than 6 releases for every 100,000 carloads of hazardous materials carloads. In addition, for the sixth straight year we can report that there were no deaths in the previous year due to the transportation of hazardous materials by rail. Thus, the statistics clearly show that the railroad industry is succeeding in its effort to ensure that hazardous materials are transported safely.

II. EMERGENCY RESPONSE

The railroads are not resting on the safety record. Rail operations, given the nature of the industry, involve some risks. A totally accident-free railroad environment is desirable, but not achievable, so the industry must be prepared to respond to hazardous materials releases. As a consequence, the railroad industry in recent years has initiated several new emergency response programs that enhance the ability of railroad industry and government personnel to respond to releases of hazardous materials.

A. Training

In 1985, the AAR began to offer hazardous materials training programs at its Transportation Test Center near Pueblo, Colorado. To date, we have offered 173 classes on tank car safety, hazardous materials spill control, inland oil spill response, and radiological respnse. Students come from fire departments, local, state, and federal agencies, railroads and chemical companies. In addition to classroom training, students respond to simulated derailments resulting in leaking liquids, burns, explosions, and the emission of toxic fumes. The AAR's training program is less than 2 years old, but the AAR is already recognized as the leader in training responders to hazardous materials releases from rail derailments. It is our expectation that a large number of individuals from industry and government will be trained at the Test Center. The AAR has applied to the National Institute of Environmental Health Sciences for a 5-year grant to train emergency responders at the Test Center under the Superfund Hazardous Waste Workers Health and Safety Training Grants Program.

The Test Center's training program is just a small, albeit important, part of the railroad industry's training program. Individual railroads have extensive training programs. They conduct emergency response training sessions for state and local fire fighters, police, and other personnel. AAR hazardous materials experts located in different parts of the country also provide training of local emergency response personnel. The railroads vary in the records they keep of traning sessions, but four railroads alone report that over the last 8 years they have conducted almost 2,000 traning sessions with over one-hundred thousand attendees. The sessions have run from 1 hour to 1 full day.

One railroad, the Union Pacific, has initiated with Dow Chemical an emergency response program called "TRANSCAER." TRANSCAER is based on the Chemical Manufacturers Association's "Community Awareness and Emergency Response" [CAER] program. As part of this pilot program, Dow and the UP conducted a one day emergency response drill at Angelton, Texas, a community which is a major hazardous materials center. The drill involved city and country agencies, the school system, a hospital, etc. The results of the Angelton exercise are being analyzed so that the UP can go forward with similar programs in other communities, especially smaller ones.

Two important inter-industry programs should be mentioned. The AAR, the Chemical Manufacturers Association, and the Railway Progress Institute have formed the "Inter-Industry Task Force" to improve chemical transportation safety. The Task Force has compiled a list of over eighty audio/visual hazardous materials programs, eighteen of which are specifically directed towards emergency response training. The Task Force also reviews public safety and preparedness programs. One public awareness program is jointly offered by the AAR, CMA, American Trucking Associations, and the General Federation of Women's Clubs. This program is an effort to develop community interest in emergency planning. The program distributes to interested parties brochures on emergency response planning measures communities should take and hazardous materials resources available to communities.

B. Information for Emergency Responders

The AAR publishes one of the most widely used publications on hazardous materials emergency response, *Emergency Handling of Hazardous Materials in Surface Transportation.* Every hazardous material in DOT's Hazardous Materials Table is listed individually in this publication. For each material there is information useful for the initial response to an emergency. *Emergency Handling* is unique in its listing of information by specific commodity. Other publications provide information by categories instead of specific materials. Many fire departments have obtained a copy of *Emergency Handling* either by purchasing it from the AAR or through railroad company programs in which copies are distributed to fire departments free of charge.

Over the last few years the AAR has developed the Industrial Chemical Accident Response Information System [ICARIS]. ICARIS is a computerized data base containing detailed information on 134 hazardous materials, representing more than 98% of the volume of hazardous materials transported in tank cars. ICARIS complements the AAR's *Emergency Handling of Hazardous Materials in Surface Transportation* by providing more detailed emergency response information to be used beyond the initial response stage. For each chemical ICARIS contains general descriptive information, chemical properties, potential health and environmental hazards, and emergency response information.

ICARIS also contains an evaporation/air dispersion model developed by Shell Research Corp. The model currently contains data for 36 chemicals, and we are considering expanding it to cover approximately 200 commodities. The model can be used to predict the concentration and distribution of toxic vapors after a spill has occurred.

For the past two years ICARIS has been tested by railroads, chemical companies, and others. ICARIS has been used in a number of hazardous materials incidents in the United States, Canada, and Europe. The AAR is planning for widespread distribution of ICARIS.

One offshoot of the ICARIS program has been the publication by the AAR of "Emergency Action Guides." For each chemical in ICARIS there is a six page guide containing data derived from the ICARIS data base. Each guide contains information describing the chemical and methods of responding to spills of the chemical; 6,000 sets of these guides have been sold.

Finally, pursuant to an FRA contract, the AAR has developed a model emergency response plan for railroads entitled, "Hazardous Material Emergency Response Plan for Railroads." Individual railroads also have plans. The railroads' emergency response plans, training programs, and information systems demonstrate that the railroads are well prepared for hazardous materials emergencies.

III. TANK CARS

Tank cars are the predominate method of transporting hazardous materials by rail. This, the AAR and the Railway Progress Institute [RPI] jointly fund a research program called the "Railroad Tank Car Safety Research and Test Project." One ongoing project is the collection of data on tank car accidents to be used for research purposes. Another project, which is being conducted under the direction of the AAR's Tank Car Committee, is the development of specifications for new steels for tank car shells that have improved brittle failure resistance.

The Research and Test Project has also completed studies showing the effectiveness of shelf couplers, thermal insulation, and head shields. Shelf couplers resist disengagement in a derailment and prevent the accidental "spearing" of a tank car by an adjacent car. Head shields also protect against spearing, and thermal insulation is designed to protect a tank car from heat generated by a neighboring tank car in an accident. It was the work of the Research and Test Project that led to the specification for shelf couplers, head shields, and thermal insulation. All tank cars which were to be retrofitted with these safety devices now have them. OTA noted in its report that these tank car modifications "have greatly improved the safety of bulk movements of hazardous materials by rail."

The AAR's Tank Car Committee sets requirements for the construction, maintenance, and safe operation of tank cars. The requirements, of course, are consistent with federal regulations. DOT has delegated to the Committee the responsibility for approving applications for the construction and modification of tank cars. The Committee also inspects and approves facilities engaged in the construction, modification, or repair of tank cars.

The Tank Car Committee is constantly evaluating ways to enhance the safety of the transportation of hazardous materials in tank cars. We've already mentioned research into the development of new brittle failure resistant steels for tank car shells. In addition, the Committee is investigating methods for reducing leaks from car pressure relief devices; improvements in existing steels used for tank car shells; improvements for attachments welded to tank car shells; and protection for bottom fittings on tank cars transporting hazardous meterials classsfied by DOT as "other regulated materials."

The FRA is currently reviewing the Tank Car Committee's performance in areas that have been delegated by DOT to the Committee. We are confident the review will show that the Committee has performed with distinction.

IV. DATA COLLECTION

Data on hazardous materials transportation is necessary for government and industry to focus their research and safety programs on the most critical areas. As was noted in the Office of Technology Assessment's *Transportation of Hazardous Materials*, railroads and the AAR possess substantial information on hazardous materials transported by rail. The railroad industry assigns unique Standard Transportation Commodity Codes [STCC] to each hazardous material. STCC numbers are used whenever a commodity is transported by rail, enabling accurate recordkeeping and data collection. Furthermore, in the near future the system will be enhanced by the adoption of separate STCC codes for hazardous wastes, allowing more refined records to be kept on hazardous waste shipments.

The AAR, as OTA noted, maintains a hazardous materials incident file containing information on hazardous materials dating from 1973. We will continue to maintain this file, an excellent source of information that can be utilized to determine particular problems that have occurred.

V. PROBLEMS WITH THE CURRENT REGULATORY SCHEME

The railroad industry continues to be concerned with unwarranted state and local interference with hazardous materials transportation. The interstate nature of rail transportation demands a uniform regulatory scheme. Yet, the rail industry still faces efforts to impose state or local restrictions on the transportation of hazardous materials by rail. State or local restrictions have two effects: (1) they hinder rail transportation, perhaps to the point where hazardous materials are diverted to other, less safe modes; and (2) they export the actual transportation of hazardous materials to other states, thus inviting a battle between neighboring jurisdictions over hazardous materials transportation.

The railroad industry is very concerned that transporters know when they are transporting hazardous commodities. At our behest, Congress inserted a provision in the Superfund Amendments and Reauthorization Act of 1986 [SARA] ensuring that DOT exercise its authority under the Hazardous Materials Transportation Act to require shippers to notify transporters when tendering commodities designated as Superfund hazardous substances. If Congress had not done so, there would have been the potential for a hazardous substance being spilled without anyone immediately recognizing what had happened, thereby magnifying the chances for a major occurrence. Unfortunately, neither Congress nor DOT has required shippers to notify transporters when tendering comnmodities designated as "extremely" hazardous substances under SARA. The problem that was addressed in SARA for Superfund hazardous substances still remains for extremely hazardous substances. We hope this situation will be rectified in the near future.

CONCLUSION

The railroad industry has made great strides in hazardous materials transportation. The safety record in the 1980's reflects the tremendous resources we have devoted to safety programs. We are proud of our record and believe that our ongoing safety programs will ensure that hazardous materials are transported safely and efficiently.

[The following information was subsequently received for the record:]

ASSOCIATION
OF AMERICAN
RAILROADS

William H. Dempsey
President

June 25, 1987

The Honorable Ernest F. Hollings
Chairman
Committee on Commerce, Science, and Transportation
United States Senate
Washington, D.C. 20510-6125

Dear Mr. Chairman:

Thank you for the opportunity to respond for the record to questions posed by Senators Adams and Kasten in connection with the Surface Transportation Subcommittee's hearings on the transportation of hazardous materials. The answers to the questions follow.

Questions Posed by Senator Adams

1. Railroads have repeatedly asked for special train treatment for the shipment of spent nuclear fuel and been turned down by the ICC. Could you please elaborate on why special train treatment has been requested for these shipments?

The Nuclear Regulatory Commission's (NRC) standards for casks require that casks be designed to withstand (1) a thirty-foot drop onto an unyielding surface; (2) a forty-two foot drop onto a spike six inches in diameter; and (3) temperatures up to 1475°F for thirty minutes. The railroads are concerned that in a train accident, casks not be exposed to mechanical forces exceeding those that would result from the drop tests or thermal forces exceeding the NRC temperature limit. Special, or dedicated, trains are preferred because they are less likely to be in accidents and, if accidents occur, they are less likely to expose casks to mechanical and thermal forces greater than the NRC limits.

Accidents are less likely to occur with dedicated trains for several reasons. Dedicated trains are not broken up and switched. Thus, cars in dedicated trains are handled less, reducing the opportunity for a mishap to occur. Dedicated trains also go from origin to destination by the most direct route without the delay inherent in breaking up and forming trains, thereby reducing transit time. The lower amount of time in transit also lessens the opportunity for a mishap to occur. Finally, the use of dedicated trains makes it easier for railroads to implement a no passing rule, whereby a moving dedicated train cannot pass another moving train. The opportunity for a train

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with casks to be in an accident caused by a passing train is eliminated by a no passing rule.

Dedicated trains help ensure that casks will not be exposed to excessive mechanical forces in two ways. Dedicated trains enable railroads to impose speed limits on the movement of casks. In an accident, trains moving at reduced speeds expose their cargo, such as casks, to reduced mechanical forces. Similarly, the railroads' no passing rule ensures that casks will not be exposed to excessive mechanical forces resulting from two moving trains colliding.

By using dedicated trains, railroads isolate casks containing spent fuel from other commodities. The isolation of casks from other commodities gives greater assurance that casks will be able to withstand thermal forces that might occur in an accident by not being exposed to temperatures exceeding 1475°F. If a derailment occurs and a cask falls onto the ground by itself, thermal forces will not be a source of concern because heat generated by the spent fuel rods will continue to be dissipated. If, however, a cask falls onto the ground and a load of taconite, for example, falls on top of it, the cask might overheat since spent fuel generates heat without oxygen and there will be no opportunity for the heat to dissipate. Similarly, a cask might overheat if it is buried under wheat or coal that is on fire. In either example, the amount of time available to remove the cask before it failed might be very small.

. . .

The use of dedicated trains contributes to public safety because of the reduced possibility of an accident and the additional assurance that in an accident, casks containing spent fuel will not be exposed to mechanical or thermal forces exceeding the design constraints established by the NRC. Thus, for the foreseeable future the railroads will continue to use dedicated trains for the transportation of spent fuel.

1a. Could you please identify other cargoes that railroads have or would like to handle under special train conditions or have "flagged out" of normal cargo tariffs?

Last year the Consolidated Rail Corporation (Conrail) attempted to flag out certain chemicals from its tariff rates. The affected chemicals, Conrail stated, pose a greater likelihood of catastrophic harm than do other hazardous materials. Conrail asserted that only contracts for moving these chemicals would give Conrail the control necessary to assure safety. Contracts, Conrail stated, would enable the railroad to negotiate notice periods prior to shipments, routing conditions, expedited movement, emergency response measures, etc. The Interstate Commerce Commission ordered that Conrail cancel its flag out. A copy of the Conrail tariff supplement at issue, which lists the hazardous materials in dispute, and the Commission's decision are attached.

Note that since the Commission's decision, certain shippers have approached Conrail and asserted that some of the chemicals on Conrail's list did not pose the extreme hazard that others posed. Conrail is working with these shippers to develop further information and, if warranted, will revise its list of chemicals that it wishes to have "flagged out."

2a. In the Association's written testimony on page 9, the Association argues for a new notification requirement upon shippers of "extremely" hazardous substances under SARA to notify rail carriers. Please explain in greater detail the basis for this view.

The Superfund Amendments and Reauthorization Act of 1986 (SARA) established a new category of substances called "extremely hazardous substances." Extremely hazardous substances, as a group, are distinct from Superfund "hazardous substances." According to EPA, 256 extremely hazardous substances are not designated as Superfund hazardous substances. While current law requires that carriers be notified when Superfund hazardous substances are tendered by shippers, no similar requirement exists for extremely hazardous substances.

The lack of a notification requirement means that if a shipper tenders one of the 256 extremely hazardous substances without notifying the transporter of the hazardous nature of the shipment and the substance is released in a derailment, neither railroad officials nor public officials will immediately know of the potential hazard. Furthermore, the railroad might have penalties imposed on it for the failure to report a release of an extremely hazardous substance. EPA has stated that it will be taking action that will solve this problem. In the April 22 Federal Register, EPA stated that at some time in the future it would designate all SARA extremely hazardous substances as Superfund hazardous substances. The designation of SARA substances as Superfund substances would automatically trigger the current requirement that transporters be notified whenever a shipper tenders a Superfund hazardous substance for transport. We hope EPA takes this action on a date not too far in the future.

2b. During the question period, the Association was asked to respond to the concept of expanding the Right-to-Know provisions of Title III of SARA to transportation. Please consider this a reiteration of that request.

It is important that a distinction be made between communities obtaining information on the kinds of hazardous materials transported through them and the application of SARA's right-to-know provisions to transportation. The railroads support the right of communities to know the kinds of hazardous materials transported in their areas. When requested, communities are given information on commodity flows. In addition, in the training sessions conducted by railroads in local communities (see our written testimony) local emergency response personnel obtain similar information. Given the large number of hazardous materials that exist and that could potentially go through a community, more specific information (such as would be given in a prenotification system) would be of little use to communities.

SARA requires that a facility inform the state emergency response commission and the local emergency planning committee of the extremely hazardous substances used or produced by the facility. SARA's right-to-know requirements make sense given the relatively small number of hazardous materials found at individual facilities and the small variation in the hazardous materials present at facilities. SARA's requirement, however, would be unworkable for railroads because of the large number of hazardous materials that can be potentially transported on a route, the great variation in hazardous materials transported over a period of time, and the thousands of communities railroads do business in.

3. Please confirm and provide the Association's policy, as well as its members' policies, concerning release of shipping manifests to state and local emergency response personnel.

It is the policy of railroads, when derailments occur, to provide state and local emergency response personnel with the information on train consists and waybills. The information shows which cars contain the hazardous materials and the names of those hazardous materials. Emergency response information also is made available.

It should be noted that while railroad crews are instructed to give federal, state, and local emergency response personnel the information on train consists and waybills, they are not supposed to surrender their only copies of those documents. It would be irresponsible for railroad personnel at the scene to give up their only records of hazardous materials on a train. Furthermore, it would do little good to carry duplicate papers given the number of different government organizations represented at the scene of a derailment. The dissemination of information on a derailed train by the train crew has proven to be an excellent system of informing government officials of the emergency response information they need to know.

Questions Posed by Senator Kasten

1. What about the question of using dedicated trains for transporting nuclear wastes like the ones used to carry TMI wastes through Missouri? Do the railroads seek to mix loads containing nuclear and non-nuclear wastes? Are regulations in this area adequate?

Railroads must be permitted to require that spent fuel be transported in dedicated trains at reduced speed limits for the reasons specified in the answer to Senator Adams' first question. Current regulations do give railroads this discretion. It is necessary, however, to reverse the Interstate Commerce Commission's decision that the railroads cannot charge special train rates because DOT has not determined that dedicated trains are necessary for public safety.

The ICC's decision on spent fuel, and its similar one on other hazardous materials (discussed in the answer to Senator Adams' question 1a) place the railroads in an untenable position. Essentially, the combined regulatory scheme of the ICC and DOT permits railroads to impose more stringent safety measures on hazardous materials than what DOT requires, but makes it extremely difficult for railroads to charge shippers for the costs incurred by the additional safety procedures. Is it desirable for the federal government to discourage private industry from taking safety precautions? We think not.

2. How many individuals has AAR trained at Pueblo, Colorado, for emergency response so far? Who pays for that training, the students? Or does AAR offer training to responders near rail lines?

The AAR has trained approximately 1,600 people in its hazardous materials courses at our Transportation Test Center in Pueblo, Colorado. Courses have been given for approximately two years. Attendees usually pay their way, although there are railroad "scholarship" programs whereby state and local emergency response personnel attend at railroad expense. In addition, AAR hazardous materials experts located in different parts of the country and employees of individual railroads provide training programs for state and local fire fighters, police, and other personnel. The railroads vary in the records they keep of training sessions, but four railroads alone report that over the last eight years they have conducted almost two thousand training sessions with over one-hundred thousand attendees. The sessions have run from one hour to a full day.

3. What percent of the railroads train their personnel for emergency response? How many train employees handle hazardous materials?

All railroads give their personnel appropriate hazardous materials training. Training ranges from the recognition of placard warnings to the ability to institute actual emergency response measures such as the containment of a leak. The level of training given depends on an employee's responsibilities.

There are approximately 80,000 railroad employees who could be involved in the operation of trains carrying hazardous materials. Railroad employees, of course, do not load or unload hazardous materials (or other commodities).

4. How has your working relationship been with RSPA and other agencies that regulate hazardous materials transportation?

There always is a certain amount of tension between regulatory agencies and those they regulate. On the whole, however, the AAR has a good working relationship with the two agencies principally responsible for regulating railroad hazardous materials transportation, RSPA and FRA. We respect the efforts RSPA and FRA have made to improve the safety of hazardous materials transportation.

Mr. Chairman, I enjoyed the opportunity to testify at the hearing held on the transportation of hazardous materials. I would be pleased to provide you or your staff with any additional information you may require.

Sincerely,

W. H. Dempsey

Senator EXON. Thank you very much.

Mr. Currie.

Mr. CURRIE. Mr. Chairman and Members of the Committee, I am John Currie, Director of Safety of the American Trucking Associations, and I am pleased to present the trucking industry's perspectives on reauthorization of the Hazardous Materials Transportation Act.

In an effort to curtail the perceived risks of their citizens, State and local officials have recently enacted unique parochial laws which severely restrict the transportation of hazardous materials through their communities. These laws have taken a number of different forms, including bans, route and time of day restrictions, and unique equipment specifications and driver qualifications.

The current regulatory scheme fails to make an effective allocation of regulatory responsibility among the Federal, State and local governments. DOT inconsistency rulings are subject to interpretation and dispute between industry and State or local governments. The trucking industry has been forced into the courts, seeking relief which could be better achieved through consideration of mandatory criteria prior to regulatory adoption.

DOT must get involved in the process with specific guidelines to assist states and localities in development of routing plans. The reauthorization should address this problem by expanding the scope of preemption applicable to intrastate, interstate and foreign commerce in, number one, technical regulations such as packaging standards, documenting and defining hazardous materials and, number two, the operational areas such as designation of specific routes of travel and reporting accidents.

The ATA agrees that State and local governments should have a voice in the establishment of routes; however, Federal guidelines are needed which require consideration of specific essential factors. State and Federal procedures should be established to resolve disputes between contiguous jurisdictions with a system of mandatory arbitration.

The U.S. DOT should retain sole authority to promulgate technical regulations. Uniformity in communicating the hazards through one single, easily recognizable system is the only way to provide protection for the thousands of drivers and handlers and emergency responders.

Container specification should be established by U.S. DOT and based on tested national and international standards. I have personally inspected tanks for flammable liquids required by the City of New York and found them not only to be less safe than Federally mandated tanks but also in violation of the Federal specifications. These tanks cannot legally be used anywhere else in this country.

DOT should be required to establish a single registration program for carriers and shippers with authorization to transport given only to carriers who demonstrate safety fitness and minimum levels of financial responsibility. If a fee is to be assessed, it should only be collected at the Federal level, and funds should be dedicated to training emergency response personnel and apportioned to the states based on demonstrated need.

ATA agrees with the necessity for improved emergency response training cited in the OTA report, and we are willing to pay our fair share for this training. The other modal transport groups must also pay their fair share.

ATA has also recognized the need for training of drivers and handlers of hazardous materials, and we have developed several publications and programs which carriers may use to train employees. Many carriers have training programs which far exceed Federal requirements. In September of 1986, ATA petitioned the U.S. DOT to amend the Federal regulations to require specific training and certification of employees.

ATA supported the Commercial Motor Vehicle Safety Act in 1986, including provisions for additional testing of drivers of hazardous materials and will continue to support swift implementation of these provisions with the mechanics in the regulations to make it work.

In closing, I wish to emphasize that ATA believes these matters are of paramount importance. I also want to assure the Members of the Subcommittee that ATA is willing to work cooperatively with government at all levels for the improvement of such transportation and for the protection of the general public. I will be happy to answer any questions which you may have.

[The statement follows:]

Statement of the American Trucking Associations

I am John V. Currie, Director of Safety of the American Trucking Associations. Prior to jointing ATA about one year ago I was in charge of the State of New York's hazardous material enforcement program with the responsibility of training and supervising the New York state police assigned to this unit. I am pleased to have been invited to present testimony concerning the Hazardous Materials Transportation Act.

ATA, the national trade association of the trucking industry, represents every type and class of motor carrier in our nation, for-hire and private—regulated and exempt—through its 51 affiliated trucking associations located in every state and the District of Columbia, 10 affiliated conferences, and several thousand motor carrier members.

Since the early 1980's, state and local governments have become increasingly concerned about the transportation of hazardous materials. Much of this has been based on perception rather than fact, or a lack of familiarity of the state or locality with the federal program. Nonetheless, in an effort to curtail the perceived risk of their citizens, state and local officials have been enacting unique, parochial laws which severely restict or prevent the transport of hazardous materials through their communities. These state and local laws have taken a number of different forms, including outright bans, route and time-of-day restrictions, prenotification of shipments, permits with and without fees, and unique equipment specifications and driver qualifications.

Regardless of the particular form a state or local law might take, or the good intention of a state or locality to increase the safety of its own citizens, to the extent that such unique state or local law may diminish the risks in one area, it has often occurred at the expense of the citizens of other state or localities. In other words, the present system has made it easy for jurisidictions to export their risk to others. Moreover, not only can a state or local law be inconsistent with a federal requirement, but also it may conflict with a unique law of neighboring states or localities, severely restricting interestate commerce.

A major reason for this is the failure of the current regulatory scheme to make functional and effective allocation or regulatory responsibility among the federal, state and local governments. The current mechanism of "inconsistency ruling" is after the fact. Too many localities never heard of the process. All too often ATA has to bring the problem to the attention of US DOT. What is, or is not, "inconsistent" with a federal requirement is subject to interpretation and therefore to dispute between industry and state or local governments. The states and localities are not required to seek pre-implementation review of their unique laws and there is often no incentiuve for them to delay a law's inplementation pending a DOT inconsistency determination. All too often, the political benefits to the local politician of enacting such laws can easily outweight their adverse consequences to nonconstitutents. As a result, the trucking industry has been forced into the courts seeking relief which would be better achieved through consideration of mandatory criteria prior to regulatory adoption. DOT must get involved in the process at an eariler stage with specific guidelines to assist states and localities in development of routing plans.

The reauthorization being considered should address this problem by expanding the scope of preemption applicable to intrastate, interstate, and foreign commerce in the following areas:

The designation, description, and classification of hazardous materials;

The documentation and description of such shipments;

The design, construction, maintenance, marking, repairing, testing, and certification of all packaging for such materials, including tanks, cargo tanks and equipment;

Reporting requirements and collection data on accidents involving these materials;

The resolution of disputes between neighboring states on routing or otherwise restricting the movement of hazardous materials.

OPERATIONAL REGULATIONS

Routing and Other Restrictions

ATA fully understands the concern of state and local governments with respect to the potential releases of hazardous materials and agrees that state and local governments should have a voice in the establishment of routes. However, the trucking industry is concerned about the unilateral routing exercised by some jurisdictions, whose essential purpose is the exportation of the problem to their neighbors. Safe transportation of hazardous materials is jeopardized by this process. Unilateral routing fails to consider similar circumstances in adjoining communities and unnecessarily increases mileage and time in transit, thereby, ultimately increasing the public's exposure to risk.

The unilateral routing restrictions of one jurisdiction may result in reactionary routing restrictions by another. Examples of such reactionary restrictions may be pointed out in the Boston, Massachusetts area. When Boston banned hazardous materials shipments on Route 128, carriers were forced to use alternate routes around the city. Shortly thereafter numerous communities around Boston restricted hazardous material shipments from their roadways. Carriers found themselves in an impossible situation since transporting hazardous materials through the city of Boston or its surrounding surburban area was virtually impossible when in compliance with the requirements.

A similar situation still exists between New York and Connecticut on shipments of radioactive materials. Each has staunchly reacted to the proposals or restrictions of the other with no signs of resolution or mandatory arbitration. Such a reaction could result in an uncontrolled maize of routes that would severely impact hazardous materials transportation nationwide. This must be prevented.

A prime example of the restrictions placed on hazardous materials shipments is on the bridges providing access to or through the New York City metropolitan area, which caused carriers to reroute shipments on Route 17 in the State of New Jersey. These shipments are then forced to travel a highway with numerous traffic control devices requiring additional maneuvering, entering, exiting and cross turning traffic, narrowed, shifting lanes as a result of construction, and an overall greater risk of an accident occurring in New Jersey, a state which had no control over the designation of this route.

Another common practice is to break the liquid bulk shipment into smaller containers such as 55 gallon drums at a point in the state of New Jersey prior to entering New York City to avoid the high cost of using specially equipped cargo tanks. This drumming creates additional handling and increases the risk of an accident occurring in the neighboring jurisdiction of New Jersey. Unfortunately, this is not an isolated example as similar routing requirements in Cincinnati, Denver, and numerous other states have resulted in shifting of risk from one city or state to another.

Federal guidelines are needed, which require jurisdictions wishing to establish routing requirements to take into account such essential factors as the nature of materials being transported, traffic flows, highway design, accident statistics, population densities, and the emergency response capabilities of the communities located along one route versus another. In addition, state and federal procedures should be established to resolve routing disputes among local communities and between states. DOT must become involved in the beginning of the routing decision process rather than at the end, as now happens through the inconsistency ruling process. A system of mandatory arbitration must be provided to solve disputes between cities on a state level and DOT must arbitrate disputes between states.

Time of Day Restrictions

Time of day restrictions, enacted by some communities, often have a detrimental affect on safety and may also have a significant impact on the economy of the business community. During the hours permitted for transport, many varieties of hazardous materials are on the highway together in much greater concentrations than would ordinarily occur, thereby increasing the proportion of risk. During the hours when transportation of hazardous materials is prohibited these vehicles must find a place to wait before moving again. The delay increases the time of transport for these materials and increases the risk.

These materials are not only bulk shipments but also smaller shipments mixed with other non-hazardous miscellaneous freight. Hazardous materials may include cleaning compounds, paints, or solvents destined for the local hardware store, fuels for home and transportation, pharmaceuticals, household commodities, and industrial manufacturing components. Because of time of day restrictions businesses must adjust employee schedules and hours of operation to coincide with delivery of such items which may require hiring of additional personnel. In a business where time is money, these added cost must be weighed against perceived safety benefits. In reality, the money may be better spent on programs with a more direct and measurable impact on improving safety.

Prenotification

Many jursidictions have imposed a requirement that shippers and carriers make notification of their intent to ship hazardous materials through their area. With the exception of a few high hazard materials, pre-notification does not trigger any additional degree of emergency preparedness on the part of the particular jurisdiction. In fact, it further complicates the regulatory scheme by producing huge volumes of worthless paper.

Existing regulations in Title III of the Superfund Amendments and Reauthorization Act provide for notification of community emergency response commissions when threshold quantities of certain materials are exceeded. The notification provides emergency responders with the capability to adequately prepare for possible accidents and establishes a commodity flow index. However, when prenotification requires several days advanced notice of shipments, it creates a costly and negative impact on today's "just-in-time" delivery of goods. In addition, it results in substantially larger quantities of these materials being stored in warehouses for immediate availability to customers. The inherent dangers created by these stockpiled materials in larger quantities are obvious.

ATA agrees there are certain materials, such as spent nuclear fuel and high level radioactive waste shipments, which may require prenotification in order that states may ensure their capabilities of responding to an accident involving these cargos. However, only state governments, and not local governments, should be allowed to require such prenotification for the materials designated by US DOT and only in accordance with guidelines established by legislation.

Enforcement

ATA feels that the most efficient means of enforcing routing requirements or other safety restrictions prescribed by federal regulations is by police officers and state and federal inspectors on the highway. Each day approximately 250,000 shipments of hazardous materials are transported by trucks on the highways of our nation. ATA would oppose any regulation requiring carriers (1) to create route records for all hazardous materials and (2) to retain the records for an extended period of time for enforcement purposes. Such a requirement would create an incredible proliferation of paperwork which will have a limited value. The cost of producing and maintaining these records would better be spent on safety projects of significantly greater value.

TECHNICAL REGULATIONS

The U.S. DOT should retain sole authority to promulgate technical regulations for container specifications, placarding, package marking and labelling, shipping papers, and designation of materials to be regulated as hazardous. State and local governments simply do not have the expertise to adequately address these technical issues and adherence to a national system of uniform hazard communication is essential. Furthermore, the trucking industry cannot keep track of such regulations if 50 states and 20,000 communities each adopt their own. Consistency within these regulations is essential to safety and emergency response to accidents. Uniformity in communicating the hazards through one single, easily recognizable system of marking, labelling and documenting these shipments—consistent with a national, and in cases of imported shipments, international systems—is the only way to provide protection for the thousands of drivers, handlers, and emergency responders.

In addition, container specifications should be established by US DOT based on tested national and international standards. Current local packaging requirements by local policial jurisdictions result in the necessity to transfer hazardous materials from one container to another, prior to entering the city, creating a potentially dangerous and unnecessary situation in a neighboring jurisdiction. I have personally inspected bulk tanks for flammable liquids required by New York City and found them not only be less safe than federally mandated tanks, but also in violation of the federal specifications for these tanks. These tanks cannot legally be used anywhere else in this country. The economic and safety burden placed on those who must conduct business in this city is substantial and has not resulted in increased safety.

FEDERAL REGISTRATION AND FUNDING

ATA strongly supports the implementation of a single federal registration plan for shippers and carriers of hazardous materials in commerce. Annual registration would provide ready access to an indexing of commercial entities for the purposes of identifying materials, fixed sites, transportation corridors, and product information under normal or emergency conditions. Contingency planning by local governments could be improved through access to such registration data. Analysis of the data collected would also be beneficial to DOT.

DOT should be required to establish a registration program for all carriers as a precondition of transporting hazardous materials in commerce. Authorization to transport following registration should only be given to carriers who demonstrate safety fitness and minimum levels of financial responsibility. The trucking industry also believes that it is essential to develop a federal registration program in order to preclude the need for similar requirements of states and local governments. Further, if a fee is to be assessed registrants, it should only be collected at the federal level and funds should be dedicated to training emergency response personnel. These funds would then be apportioned to the states based on demonstrated need. Without these safeguards, the trucking industry is confronted with a plethora of increased paperwork and excessive and duplicative fees with no assurance that the funds collected are being used for improving safety in the transportation or hazardous materials. In fact, one state has already proposed an $18 per shipment fee on all hazardous materials. The funds collected would greatly exceed the amount needed to train all the emergency responders in that state.

Emergency Response

ATA agrees with the necessity for improved emergency response training cited in the Office of Technology Assessment [OTA] report to Congress. We appreciate the cost that such training programs entail and we are willing to pay our fair share. Realizing that a percentage of hazardous materials related accidents occur on the highway, we do not oppose use of the Highway Trust Fund money in proportion with the other modes of transportation. In other words, the other modal transport groups must also pay their fair share.

At the same time, if industry is to be assessed monies to assist in underwriting emergency response programs, it is essential that fees be collected at the federal level and then distributed to the state and local programs. Additional state and local fees for these purposes would then be unnecessary and preempted. Federal collection and distribution is crucial if we are to avoid inefficiency and duplication in state and local programs, and the financial burdens individual state and local fees would impose upon industry.

ATA has also recognized the need for mandated training of drivers and handlers of hazardous materials. The OTA report found that 62.1% of all hazardous materials spills are caused by human error. ATA has developed and offered to the industry, several publications and programs which carriers may use to train employees. Indeed many carriers have training programs which far exceed federal requirements. However, we feel that the existing regulations do not go far enough. In September 1986 ATA petitioned the US DOT to amend federal regulations for drivers and handlers of hazardous materials to require specific training and certification of employees. Unfortunately, DOT has not yet responded to our petition.

ATA further supported the Commercial Motor Vehicle Safety Act of 1986 which contains provisions for additional testing of drivers who will transport hazardous materials. We will continue to support swift implementation of these provisons with the mechanics in the regulations to make it work.

SUMMARY

ATA feels that, although states have a distinct advantage in selection of routes, based on firsthand knowledge of regional highway characteristics and use, federal guidelines are necessary to ensure consideration of all criteria to provide the most beneficial routes to safety. Intrastate intervention should be mandated for jurisdictional disputes within the state and Federal intervention must be required for resolution of interestate disputes. State or local laws relative to routing of hazardous materials should be allowed if they conform to guidelines or performance standards promulgated by the Department of Transportation. Such performance standards should assure that state or local laws will not hamper or unduly burden commerce, and adversely affect safety. However, ATA would not endorse a routing standard that would allow governmental agencies to specify the mode of transportation for hazardous materials.

ATA believes the Federal Government should totally preempt state and local governments in the regulation of container and tank construction, vehicle placarding, package marking and labelling, shipping paper requirements, hazardous materials designations and definitions.

ATA believes Federal requirements for reporting hazardous materials accidents should preempt state and local requirements, except when immediate notice to state and local authorities is necessary for emergency response purposes. Written reports should be filed only with the Department of Transportation.

In general, prenotificaiton of hazardous materials movements should be restricted to materials whose handling is unique in emergency situations. Only state governments (not local governments) should be allowed to require prenotification and only for materials designated by DOT and in accordance with guidelines established by legislation.

DOT should be required to establish a registration program as a precondition to shipping or transporting hazardous materials (including waste) in commerce, and establish a fee for such registration. Each carrier registrant should be required to demonstrate safety fitness, including minimum levels of financial responsibility as a condition of registration. State and local governments must be preempted from imposing their won permit, license or registration requirements.

In closing, I wish to emphasize that ATA believes these matters are of paramount importance for improved safety and efficiency of truck transportation of hazardous materials. I also want to assure the members of the Subcommittee that ATA is willing to work cooperatively with government at all levels for the improvement of such transportation and for the protection of the general public and other highway users.

[The following information was subsequently received for the record:]

SAFETY DEPARTMENT
John V. Currie
Director
(703) 838-1849

**AMERICAN
TRUCKING
ASSOCIATIONS**

2200 Mill Road, Alexandria, VA 22314

June 17, 1987

The Honorable Ernest F. Hollings
Chairman
Committee on Commerce, Science
and Transportation
U.S. Senate
Russell Office Bldg., Room 125
Washington, DC 20510-6125

Dear Mr. Chairman:

I would like to thank you for the opportunity to respond to additional questions from your committee regarding my testimony of April 24, 1987 on Reauthorization of the Hazardous Material Transportation Act.

Question #1 of Senator Robert W. Kasten.

1. When they require repackaging of shipments, are cities like New York responding mainly to concerns about the integrity of the containers being used or about emergency response capabilities?

   Approximately 50 years ago, federal regulations regarding transportation of hazardous materials were almost non-existent. Containers were manufactured to standards of the American Society of Mechanical Engineers (ASME) and utilized and transported according to accepted industry good practice. In an effort to provide some form of regulated standard practice and protect its citizens from the most common and feared materials, flammables and explosives, New York and other cities promulgated specifications for containers and vehicles carrying these particular materials. In 1936, New York City, to guaranty the integrity of bulk containers, drafted specifications for tank vehicles transporting flammable liquids, which have not substantially changed since their inception.

   During the 1950's and early 1960's, the federal government began to codify the industry standards which had developed over the years and were considered the most modern and safest. They regulated containerization, handling and transportation of identified hazardous materials of all classes under Title 49 of the Code of Federal Regulations. Since that time, the federal regulations have been amended constantly to incorporate the development of technological specification advancements, improved communication of hazards and safer methods of handling these materials.

As a result, the archaic specifications for containers still in effect in some cities, most notably New York, are not consistent with the federal regulations for the entire country. In fact, the specifications required by New York for construction of cargo tanks make these tanks less safe than the tanks constructed in compliance with federal specifications. Yet, even though these tanks are illegal to be used under federal regulations, and cannot be used anywhere else in the country, New York continues to resist updating their regulations to accept the national standards.

Therefore, when bulk shipments originating anywhere else in the country, are destined for shipment to New York City they must either be transferred to a New York specification cargo tank or transferred to 55 gallon or smaller drums before entering the city. Neighboring jurisdictions, such as cities in the state of New Jersey, are thus subject to increased exposure to possible accidents through additional handling and increased traffic with vehicles carrying such materials.

The specifications required by New York, which even regulate the gear ratio of the truck rear end and materials used to construct the cab, are based on outdated practices, which at the time of adoption, addressed the concerns of package integrity and provided some degree of safety for emergency responders, based on the technology of that period.

Questions #2 - Senator Robert W. Kasten.

2. We passed a national commercial drivers licensing provision last Congress. Is ATA working with DOT on the regulations affecting the licensing of hazardous materials drivers to be sure those standards are strict enough?

   ATA strongly supports the uniform testing requirements of the Commercial Vehicle Safety Act of 1986 for all drivers licensed to operate a commercial vehicle. We are working very closely with DOT to develop strict standards to adequately test a driver's knowledge and ability to handle hazardous materials. On September 5, 1986, ATA petitioned the Research and Special Programs Administration of DOT to amend the federal regulations contained in 49 CFR to require specific training, testing, and certification of drivers of hazardous materials carrying vehicles. (I have enclosed a copy of that petition for your information.) ATA would like to see specifics of the petition included in the drivers license standards.

As a training aid to carriers, ATA has developed and published a book called "Drivers Guide to Hazardous Materials" which simplifies the regulations for greater comprehension and compliance by truck drivers. (Complimentary copy enclosed.) We also provide several other books, charts, and other publications to enhance carrier compliance.

Question #1 - Senator Brock Adams

1. Please confirm and provide the Association's policy, and to the extent available the policies of its members, concerning release of shipping manifests to state and local emergency response personnel.

   Shipping papers or manifests are required by federal regulation to be carried on the vehicle, within the drivers reach, conspicuously displayed or marked, and available for production to anyone with authority to request them. The primary reason for this requirement is to provide specific information of prescribed format to emergency responders should the need arise. ATA and its members, recognizing the importance of this requirement, not only support, encourage, and train for compliance but we also market a special envelope for these papers which goes well beyond the requirements of these regulations. (Envelope enclosed for your information.)

   When the information on the shipping paper is used in conjunction with the Emergency Response Guidebook, published by D.O.T., emergency responders are well prepared to identify materials, recognize the hazards, and properly mitigate a scene involving release or imminent release of such materials.

   Many carriers and shippers in todays market are using electronically transmitted documentation of shipments for non-hazardous materials. We realize that hard copy of the documentation, with prescribed entries, must accompany all hazardous materials shipments.

> ATA supports prenotification and advance information to emergency responders on shipments of extremely high hazard materials which should be identified by DOT. We also encourage our members to become involved in the emergency planning commissions provided for in Title III of the Superfund Amendments and Reauthorization Act (SARA). ATA has also provided guidance for the trucking industry for compliance with the notification requirements of SARA for threshold quantities of hazardous substances. We oppose prenotification for daily shipments of any other common hazardous material in that it is not beneficial to safety. We feel that to flood emergency response agencies with notification forms and a myriad of descriptionary documentation, which has little or no use, would severely hamper the agencies ability to assess and prepare for incidents. Paperwork requirements which would not trigger any emergency response preparation would place an unnecessary burden on commerce and strain the resources of the agencies responsible for monitoring transportation for emergency preparedness.

I would reiterate our concerns for inclusion in the reauthorization bill, of a greater federal presence in establishing routing guidelines, mandating state compliance with such guidelines and providing for DOT resolution of dispute. Federal preemption in the regulation of containerization, marking, labeling, placarding, and documenting of hazardous materials is also of grave importance for uniformity and increased safety.

I hope that your questions have been satisfactorily answered and will gladly provide additional information, as required, regarding ATA support for reauthorization of the HMTA.

Sincerely,

John V. Currie

John V. Currie

/jmt

Enclosures

Senator EXON. Gentlemen, thank you very much. My first question has to deal with a subject on which we need your advice. It has been suggested, and I emphasize it has only been suggested, that a Federal registration system for shippers and carriers of hazardous materials could provide additional information on the movement of hazardous programs.

It has also been suggested that the inclusion of fees in such a registration program could be one source of funding for training for local first responders and emergency programs.

I would be interested in your views regarding such a proposal.

Mr. CURRIE. We feel that additional training is necessary for the emergency response community. We are perfectly willing to pay our fair share. There have been several estimates as far as the amount that should be funded for this training. We feel that there is a need to establish, first of all, who you are going to train. If you are going to provide the training, you must also provide the equipment that goes along with that training.

I agree with previous testimony that it should be based on need and that every firefighter does not necessarily need or should probably not be trained in the complete response to hazardous materials incident. I do, however, feel that every emergency response person, whether it be a fireman or a policeman, should be trained in recognition, identification and personal protection from hazardous materials in order that they may properly respond to a transportation-related accident.

Senator EXON. Mr. Dempsey.

Mr. DEMPSEY. Mr. Chairman, so far as registration is concerned, we do not think in our industry that we have a problem. Everybody knows who transports goods on every carrier that we have. I do not know that there is any particular objection in principle that we have to it. We just do not think there is a need for it. We have on every train a consist list that indicates what is there.

Now as to emergency response, that is a serious matter and one which we have been trying to deal with. We have a new program we established in 1985 at our test center in Pueblo that I think most people agree is one of the best in the country. We have had firefighters, police and railroad people through that program and individual railroad employees through that as well.

So that is a genuine need in our industry and must be addressed. Now, exactly how the Federal Government can help us in that respect, I think I would have to wait upon some concrete proposal. Obviously, it would have some shippers, if there was some sort of tax levied, saying that, well, why should we subsidize the transporters of hazardous materials. It is that kind of balancing that would have to be engaged in. In principle, surely that is a matter that the Congress ought to address.

Senator EXON. Gentlemen, I will have to recess temporarily. I must go and vote. If you will stand by I will be back very shortly, or Senator Adams will be here and we will proceed and not hold you up very long.

[Brief recess.]

Senator ADAMS [presiding]. The subcommittee will come to order. The Chairman has asked me to proceed. He will return shortly as soon as the vote has been completed, but we wanted to move along and be certain that we gave full time to all of you.

As I understand it, there has been a statement by the American Trucking Association. Is that correct? Have you completed your statement, Mr. Currie?

Mr. CURRIE. That is correct. I have, yes, sir.

Senator ADAMS. All right. Mr. Dempsey, do you wish to make a statement on Staggers Act regulation——

Mr. DEMPSEY. I would love to do that.

Senator ADAMS [continuing]. Or coupling or anything else at this point? I want to give you a full opportunity, and the Chairman will be back.

Mr. DEMPSEY. That is very kind of you, Senator. I am used to calling you Mr. Secretary, and this is the first time that I have had the opportunity to be before you in the Senate.

That is very thoughtful of you, but you know what our position is on that.

Senator ADAMS. I do.

Do you have anything further? I want to be certain that each of the witnesses understands that it is very important. The Committee is grateful for your appearing here. Of course, your statements will be made part of the record, but the Chairman and I wanted to be certain that the vote did not interfere with your opportunity to make any oral statement that you wish to make.

Do you wish to make one?

Mr. DEMPSEY. Senator, I should say, you were not here when I introduced Mr. Johnston. He is our Vice President of Operations at the AAR.

Senator ADAMS. I see.

Mr. DEMPSEY. So if I do not want to say anything, he does not, either.

Senator ADAMS. As one who understands the hierarchy of the American Association of Railroads, I understand that. It is a pleasure to meet you. I am sorry I never met you before.

Now, I have a couple of questions here that I would like to ask. I will ask this question first of you, Mr. Dempsey, and then I am going to come to you, Mr. Currie.

With regard to transportation of hazardous materials, the rail industry is basically regulated, and you certainly are registered and licensed in order to be able to move; is that correct?

Mr. DEMPSEY. That is right.

Senator ADAMS. That is a difference, is it not, Mr. Currie, from the situation that exists, and I am not talking about certain of the regulated carriers but the trucking industry over all.

Mr. CURRIE. As far as a Federal registration?

Senator ADAMS. Yes.

Mr. CURRIE. There is none right now. There is no way of identifying the players, whether they be shippers or motor carriers, at this time.

Senator ADAMS. What is the position of your association with regard to the suggestions that were made by the shippers that were here, by the representatives of the small towns, on basically licensing and registration? I will take those two first, and then I am going to ask you both on right to know on routing.

Mr. **Currie**. On the licensing, to put that in the proper perspective, the Commercial Motor Vehicles Safety Act of 1986 is a far-reaching piece of legislation, in that it requires uniform testing throughout the United States for drivers in the particular type of vehicle that they will be operating, and it does have a requirement that drivers of hazardous materials receive further testing.

Senator **Adams**. Is there a special license that reflects this so that an enforcement agent in a small town, or any size town because enforcement basically takes place at the local level, can determine whether or not that driver is licensed to handle the materials that are being handled?

Mr. **Currie**. When the commercial driver's license which is provided in the Commercial Motor Vehicles Safety Act of 1986 is fully implemented, it will insure that all commercial motor vehicle drivers have had the same uniform testing and live up to the same standards throughout the United States. Every state will be required to adopt the same testing standards and the same criteria for licensing of drivers.

Senator **Adams**. I am talking about just hazardous.

Mr. **Currie**. Okay. Now, hazardous materials drivers will be certified as trained, by the carrier.

Senator **Adams**. Do you advocate a specialized license, and I am going to ask you in a minute on registration of vehicles or companies, for the handling of hazardous materials?

Mr. **Currie**. On the licensing we do support a certification on that license, that the driver has been properly trained in the handling of hazardous materials, yes.

Senator **Adams**. To be Federal or State?

Mr. **Currie**. It would be done on a State license level but according to a Federal uniform standard.

Senator **Adams**. All right. Now, what about registration with regard either to companies or vehicles?

Mr. **Currie**. We support a Federal registration plan for all carriers and shippers of hazardous materials, and we do support a fee which would go along with that registration program to be distributed to the States for use in training emergency responders.

Senator **Adams**. How about you, Mr. Dempsey? I know you have a different situation, but I want to give you an opportunity to comment if you want, and then I am going to ask about right to know.

Mr. **Dempsey**. Right to know and routing; I think that probably is something that I would like to address. As to the other matters, I think I will let it go.

Senator **Adams**. All right. Now, I asked the other witnesses this question. There is in Title III of the Super Fund or the proposed reauthorization a community right to know and notification process.

The question is should that be contained in HAZMAT legislation or authorized by regulation? I will start with you, Mr. Currie, and then I will go to Mr. Dempsey.

Mr. **Currie**. The Super Fund Amendments and Reauthorization Act does go a long way in establishing community right to know and provides for notification of emergency planning commissions within the locality.

As far as whether it should be established in legislation, there has been since 1974 the authority for the Secretary of Transportation to establish a registration program and to provide additional information through that registration program on flow of commodities and so on, and it has not yet been done.

Senator **Adams**. That is what I wanted to ask you, because I know we did not get RSPA formed until the middle of 1978, but that has been nearly 10 years ago. The statement was made by one of the witnesses, and I would just like to have you update the Committee whether the regulations that are authorized have been carried out.

Mr. **Currie**. Well, I think that speaks for itself, in that there is no registration plan in existence today, even though it has been authorized by regulation.

We would support the immediately or timely implementation of such a registration plan, and if it would require legislation to have a timely development of such a plan, then we would support that.

Senator **Adams**. Mr. Dempsey, in your testimony you essentially state that there ought to be a carrier right to know provision for extremely hazardous shipments listed under the 1986 Super Fund Amendments.

Would you please elaborate on this issue and your use of the need for community right to know also being enacted, which is part of those amendments?

Mr. **Dempsey**. Let me just say as a general matter, and I would like, with your permission, make a more thoughtful response.

Senator **Adams**. We would ask that you make a more detailed written response to that question, but I would like to hear your summary now.

Mr. **Dempsey**. Right. The question of emergency response by local authorities is extraordinarily important, as you and the Committee know very well and as we appreciate; therefore, my personal view is that there ought to be some sort of mechanism for letting the communities know what sort of commodities are going through that town or that city, not on a daily basis or not by a train. That would be an impossible burden on the rail industry and I think would contribute nothing to safety because I do not know what they would do; have the police chief out there meeting the train and escorting it through town, and if it is late then he misses his lunch and that sort of thing.

But it is important, and I do want to address it in, as I say, a more thoughtful and detailed way than I am right now. It corresponds with the efforts that we are making with the State and local authorities to train the people that have to respond in the first instance to a derailment of a hazardous materials car and a discharge.

Now, as to this particular question, though, as to extremely hazardous substances, I wonder if Mr. Johnston, giving him permission now to talk if he would like to address that.

Mr. **Johnston**. Thank you. I presume you are referring to perhaps spent fuel, for example, or a nuclear substance?

Senator **Adams**. Spent fuels would be an example and other particular commodities—the chemical industry is evolving very rapidly, so that we have all kinds of exotic materials that are potentially in them. That is the kind of thing that we are referring to as opposed to a regular set of, say, gasoline shipments that are going through a city or a regular set of agricultural basic commodity.

In other words, I think it would best be described as if you have a plant that is using chlorine at the edge of town, it is going in there every day and everybody knows that, that is one thing.

My question really goes to extrahazardous materials that are not in the normal course.

Mr. **Johnston**. Well, again, the only thing that I can really think of at this time, Senator, would be, of course, spent fuel. Normally, there is an awful lot of publicity when that does move, and when it is moved on our railroads in this country it is moved under certain restrictions; speed restrictions, for example, trains not being permitted to pass one another carrying that particular type of commodity, and also in a special train rather than just as part of a regular freight train.

With regard to all the other hazardous materials, of which there certainly are over 2,000 classified and regulated hazardous materials that we handle in the rail industry, and I am sure the trucking industry is the same, we have certain type tank cars, specified tank cars that can carry only certain commodities. They have been retrofitted now with the new design of tank cars for certain commodities such as chlorine, as you mentioned, the 112s and the 114s, the cars today that handle acrylonitrile, anhydrous ammonia, on and on and on, including pressure tank cars without bottom discontinuities that could perhaps shear off in the case of a derailment.

So all of those things are covered under the DOT regs, but other than spent fuel I know of no other commodity. There was one I can think of that gave some people in India problems over in Bhopal. That is the MIC that was a regular movement out of Charleston, West Virginia up into the State of New York.

Senator **Adams**. Well, let me say, you are asking, as the transporter, to be notified about extremely hazardous materials.

Mr. **Dempsey**. That is right.

Senator **Adams**. My question is should the community also have the same kind of notification?

Mr. **Johnston**. Again, as Mr. Dempsey pointed out, we would have no problem with that. We could tell them the type of commodities that normally traverse through their particular area, but to do this on a train-by-train basis, it would be extremely burdensome, as you can appreciate the thousands of communities we operate through.

Now, again, if it is spent fuel, then I can understand. If it is radioactive material, then perhaps we should; but we surround that with all the safety precautions possible.

Mr. **Dempsey**. Well, let us, Senator, look at that with a little bit more care. As you say, what we want on our part is to be notified when the shippers give us extremely hazardous materials, and I can perfectly well understand the desire of communities to be notified when they are passing through.

Then we have, on the other hand, the problem of, you know, exactly how burdensome and how useful that would be.

But I would like to think a little bit about that and get back to you, if you do not mind.

[The following information was subsequently received for the record:]

ASSOCIATION
OF AMERICAN
RAILROADS

William H. Dempsey
President

May 14, 1987

The Honorable James J. Exon
Chairman
Senate Subcommittee on Surface Transportation
Committee on Commerce, Science and Transportation
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

At the hearing your Subcommittee held on April 24, concerning the reauthorization of the Hazardous Materials Transportation Act, Senator Adams asked that we submit for the record testimony on the right to know issue. Specifically, Senator Adams asked that we elaborate on our position that carriers must be informed when extremely hazardous substances are tendered for transport. Senator Adams also asked that we comment on whether communities should be informed of the hazardous materials being transported through them.

The Superfund Amendments and Reauthorization Act of 1986 (SARA) established a new category of substances called "extremely hazardous substances." Extremely hazardous substances, as a group, are distinct from Superfund "hazardous substances." According to EPA, 256 extremely hazardous substances are not designated as Superfund hazardous substances. While current law requires that carriers be notified when Superfund hazardous substances are tendered by shippers, no similar requirement exists for extremely hazardous substances.

The lack of a notification requirement means that if a shipper tenders one of the 256 extremely hazardous substances without notifying the transporter of the hazardous nature of the shipment and the substance is released in a derailment, neither railroad officials nor public officials will immediately know of the potential hazard. Furthermore, the railroad might have penalties imposed on it for the failure to report a release of an extremely hazardous substance. EPA has stated that it will be taking action that will solve this problem. In the April 22 Federal Register, EPA stated that at some time in the future it would designate all SARA extremely hazardous substances as Superfund hazardous substances. The designation of SARA substances as Superfund substances would automatically trigger the current requirement that transporters be notified whenever a shipper tenders a Superfund hazardous substance for transport. We hope EPA takes this action promptly.

Regarding the issue of communities being informed of the hazardous materials being transported through them, we believe that communities do have the right to know the kinds of hazardous materials transported in their areas. Currently, railroads give this information to communities on an ad hoc basis. When requested, communities are given general information on commodity flows. Communities, however, are not given advance notification of individual shipments. As we stated in our testimony, shipment by shipment notification of all hazardous materials shipments would be extremely burdensome to railroads and would not be useful to communities. Railroads handle hundreds of hazardous materials shipments every hour of the day. Frequently, railroads do not know in advance what materials they will be receiving from a shipper, a connecting railroad, or a trucking company. The requirements of advance notification would result in entire trains being held at interchange points or in yards pending notification. The delay of trains would be counterproductive from a safety viewpoint.

Furthermore, problems with railroad hazardous materials shipments are so rare that shipment by shipment notification would not provide a community with information on which it could routinely act. Communities with substantial hazardous materials traffic would be inundated with useless information. If an accident occurs, existing safety mechanisms ensure that hazardous materials shipments can be identified quickly. There simply is no purpose to be served by a shipment prenotification system.

Mr. Chairman, we request that these comments be made a part of the record of your April 24 hearing. It was a pleasure testifying before your Committee and we look forward to being of assistance to you and your staff in the future.

Sincerely,

W. H. Dempsey

Senator ADAMS. All right. It does not involve just spent fuel. Our testimony from the first witness was, I think it was naval torpedoes, was it not, Mr. Chairman? I would imagine a local response unit would have a bit of difficulty in knowing what they were going to do with those.

Mr. Currie.

Mr. CURRIE. Yes. We do not object to prenotification of high hazard shipments designated by US DOT which would trigger additional emergency preparedness, such as the spent nuclear fuel shipments.

I might add that when I was a law enforcement officer in the State of New York, I was in charge of training the troopers in New York State in the inspection and escort of these shipments through New York State. So I am very much aware of the spent nuclear fuel shipment process and the safety in highway transportation that is emphasized through that.

If prenotification would be required and would not trigger any additional emergency preparedness, it would only further encumber the local emergency planning commission, in that it would create volumes of paper which would be of no use to the emergency response community. I think it should be limited to those specific high hazard materials.

Every hazardous materials shipment, for instance, paint and cleaning compounds and so on, that are transported on a daily basis into every community are very common, and emergency responders are well aware that these are in daily transport. I do not think there is any need for a prenotification to any particular jurisdiction that those commodities are being carried.

Senator ADAMS. Thank you.

Mr. Chairman.

Senator EXON [presiding]. Gentlemen, thank you very much. I have just a question or two, and I apologize for having to go to the floor. I hope we have not inconvenienced you too much.

If the old story is true, the first person at the scene of an incident or accident is going to be, in your case a truck driver, Mr. Currie, and in your case crews of railroads, Mr. Dempsey, I am curious to know how much training currently takes place and are you satisfied with the training that your truck drivers and your crewmen have received as to what they should do in the case of an incident? How thorough has that been in both the trucking industry for truckers and in the railroad industry for the operators of a train?

We will start with you, Mr. Currie.

Mr. CURRIE. As far as the training of drivers go, the majority of the carriers in the country today have good training programs for their drivers. Many of them have taken the initiative to completely train their drivers with a good safety program emphasizing hazardous materials mitigation; in other words, what to do when an accident first happens to keep it from escalating into a major situation.

However, we do not feel that there is any requirement in the Federal regulations which requires all carriers to do that. The requirements are very vague. They do not require any specific training of a driver, and indeed there are drivers out there who lack the proper training to handle an incident when it does occur in transportation.

Senator **Adams**. In your case with the truck drivers, do a substantial number of the truck drivers who handle or haul hazardous chemicals traditionally drive trucks that handle those dangerous materials, or could they be driving a grocery truck one route and then the next time around they could be driving a hazardous chemical load?

Mr. **Currie**. In the LTL, less than truckload, business, probably about 10 percent of all cargoes would include some type of a hazardous material; therefore, most of the drivers, unless they are a specialized carrier, would be handling certain hazardous materials on a daily basis; so that the training would be necessary for all drivers.

We petitioned the Department of Transportation in September of last year to require specific training and certification by the carrier that that driver has been trained in the proper handling of hazardous materials. It would include the identification of the material, a determination that it was properly marked, packaged and described on a shipping paper and so on before accepting it for shipment. We feel that it is very important that all drivers receive this training.

Naturally, specialized carriers, especially hauling in bulk, would have specific training in the proper use of the emergency equipment on the tank, whether it be the emergency remote controls for the internal valves or whatever it might be, in the proper use of that particular tank which he operates.

Senator **Exon**. I assume, Mr. Dempsey, with the railroads, you may have one car or a few cars per train that contain hazardous materials, but most of the train. So could you respond to my question with regard to how satisfied are you that the crews of the trains are adequately trained to meet their responsibilities when something happens.

Mr. **Dempsey**. Well, we do it within the AAR in a sense, in that we have a Bureau of Explosives. They are obviously highly trained people, and they respond to special situations, as does the chemical industry.

But your question goes to the engineers, the conductors and the brakemen. Mr. Johnston has spent his whole life in the operating area of the railroad, so he can speak with knowledge and authority to that question.

Mr. **Johnston**. Yes, Senator, we have excellent programs in the industry, annual classes and special classes for the training of our people. The classes cover hazardous materials, switching operations, and compliance with DOT regs.

We must remember, however, that when we have a major derailment on line of road, the only thing we require of our people, that is the train and engine service people, the locomotive engineer, the conductor, the trainman, is to simply find out how serious the accident is, the number of cars involved, without endangering himself if that is possible, notify the train dispatcher, who immediately has a list of about 20 people in various agencies that he calls, and then stand by for the first responder and show that first responder the train consist, which lists the type of commodities that are involved. That is so important.

Our people are well trained in this area, and this is true for all of our major carriers throughout the United States.

Senator EXON. Thank you. I have no further questions.

Do you have further questions, Senator Adams?

Senator ADAMS. I have nothing further, Mr. Chairman.

Senator EXON. Gentlemen, thank you very much for being here. We appreciate it so much, and we are adjourned.

[Whereupon, at 11:45 a.m., the hearing adjourned.]

HAZARDOUS MATERIALS TRANSPORTATION

TUESDAY, MAY 12, 1987

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON SURFACE TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:00 p.m., in room SR-253, Russell Senate Office Building, the Hon. J. James Exon (chairman of the subcommittee) presiding.

OPENING STATEMENT BY SENATOR EXON

Senator EXON. The subcommittee will come to order.

Because we have a rather lengthy and distinguished list of people who are going to offer testimony on this important subject, I would like to ask that any of the Senators present—Senator Proxmire, Senator Specter, Senator Hecht, and possibly Senator Heinz—to please come to the table and we will take their testimony first, and then move briskly along.

I have a brief opening statement, and then I will recognize other Members of the subcommittee, if they have brief opening statements.

This afternoon the Surface Transportation Subcommittee completes the last of three scheduled hearings on the reauthorization of the Hazardous Materials Transportation Act. The first two hearings focused on the transportation of hazardous materials generally.

This third hearing will concentrate primarily on the transportation of radioactive materials. The transportation of radioactive materials is an issue of particular concern to the public, as well as to me and the Members of the Commerce Committee. That is why when Senator Adams discussed this matter with me, I was more than happy to schedule this hearing.

As I noted in our previous hearings, my State of Nebraska is a corridor State through which radioactive materials are frequently routed. It was in Nebraska that our former Governor, Robert Kerry, stopped a train carrying nuclear materials. He took this action because he felt that the State had not received sufficient notice about the shipment to enable officials within Nebraska to be prepared for the train's passage through the State.

As such, this is an issue that I and the citizens of Nebraska care a great deal about.

During the course of this afternoon, the subcommittee will be hearing from my colleagues Senators Specter, Hecht, and Proxmire, and possibly Senator Heinz, about their interest in this subject.

We will also hear from the panels representing the Federal Government, State and local governments, and industry and public interest groups. I am hopeful this hearing will help provide us with the record that we need to develop legislation to ensure safety in this important area.

Before calling on the other Members of the subcommittee for any comments that they might wish to make, I would like to note that in the audience we have Ms. Edith Page from the Office of Technology Assessment, and Dr. Paul Rothberg from the Congressional Research Service. Ms. Page and Dr. Rothberg testified at our previous hearing on April 22, and are very knowledgeable in the area of hazardous materials transportation.

While they are not listed as formal witnesses this afternoon, I want the Members of the subcommittee to know that they are present and have offered to respond to any questions that might help develop the record that we feel is necessary.

At this time I recognize Senator Adams for any opening comments that he has.

OPENING STATEMENT BY SENATOR ADAMS

Senator ADAMS. Thank you, Mr. Chairman.

I deeply appreciate your following through on our conversation. I want to express my appreciation to you and to the Chairman of the Full Committee for scheduling this hearing on the transportation of radioactive materials.

This afternoon several witnesses are going to reassure us there is no problem. The Nuclear Regulatory Commission claims that spent fuel shipments are even safer than we thought. All three Federal agencies will assure us they are coordinating with each other and with FEMA. And even if there is a serious accident, Federal assistance is only hours away.

Unfortunately, Mr. Chairman, that is not true and I am hopeful that these hearings today will develop exactly what the true facts are. For example, Mr. Chairman, Type B shipping packages for radioactive materials are not designed to withstand a fire for hours. Type B packages which are used for highly radioactive materials such as high-level waste are designed to withstand intense fire for 30 minutes. One Type B package proposed to be used by DOE, TRUPACT failed after 35 minutes.

DOE's response has been to ask the Department of Transportation for an exemption from the standard. I think that is wrong. For example, last week we had a train accident in my State. Apparently a boulder coming down the side of the Columbia Gorge derailed a Burlington Northern Freight Train. The manifest showed 192 pounds of radioactive material on board but did not identify what it was. It turned out that it was really 192 pounds of smoke detectors with radioactive material inside. These smoke detectors may or may not have been burned up in the accident. We are still waiting to find out—and they do give off a dangerous smoke.

There are roughly 2 million radioactive shipments a year, of which 100 to 300 are high-level waste or spent fuel, Mr. Chairman.

And beginning next year, the Department of Energy, DOE, is going to begin an estimated 30,000 shipments of transuranic waste to the Waste Isolation Pilot Plant, WIPP, which is scheduled to go into operation in October of 1988.

According to DOE, operation of a monitored retrievable storage facility proposed by DOE to be in operation nine years from now would result in 975 rail and truck shipments a year from nuclear power plants. DOE anticipates roughly the same number of shipments per year to a repository.

In the interim, there will continue to be shipments of commercial spent fuel, foreign and domestic research reactor spent fuel, spent Naval reactor fuel, and a variety of commercial low-level waste shipments, as well as a range of nonwaste radioactive material shipments.

I am concerned about these shipments not only for the hazards they present in their own right, but the fact that they are transported along with every other type of cargo, on waterway, rail, and high-waste systems. One of the continuing problems with hazardous materials is the risk they pose in conjunction with other hazardous cargos, and adding radioactive materials to the mix simply adds to the problem of emergency response routing and training.

Radioactive cargos may also be susceptible to terrorist or sabotage threats, and these bring threats to our transportation system.

Mr. Chairman, Washington State is already a major link. Just as your State is a corridor, mine is one that has a defense plutonium project within it, and has had for many, many years. Because of DOE's Hanford Reservation and the commercial low-level waste disposal facility which our State has accepted, we also will be shipping transuranic, which are plutonium-related waste, to New Mexico during the next year.

Controversy has erupted regarding the possible use of our ports for transshipment of foreign research fuel, to say nothing of the potential impact of the proposed siting of a high-level waste repository in the Hanford area. This issue is of vital importance to our State. It is of vital importance to the Nation.

I want to thank you, Mr. Chairman, for recognizing the problem and for bringing everyone together on it, because if we proceed with this we are going to be sending these waste products not only from the existing defense waste sites—of which there are a number—but also from the East Coast to the West Coast, which involves nearly 3,000 miles of transportation.

I thank you, Mr. Chairman, for your time, and I look forward to the witnesses, and particularly to our colleagues in the Senate who I know are very concerned about this also.

Senator Exon. Senator Adams, thank you very much. I just want to say once again, particularly because of your experience in this area in the House of Representatives, but more importantly your distinguished record in the Transportation Department as the Secretary of Transportation, with you we realize comes a great amount of experience in this area, and we appreciate your keen interest in this very serious matter, and we thank you for your opening statement.

Senator Packwood has submitted a statement for the record.

[The statement follows:]

OPENING STATEMENT BY SENATOR PACKWOOD

Mr. Chairman, today the subcommittee is holding its third hearing on the transportation of hazardous materials. This hearing will focus specifically on the problems involved in transporting nuclear materials. I have long been concerned about this issue, particularly in light of the Department of Energy's [DOE] selection of Hanford, WA as a finalist for the Nation's nuclear waste repository.

I am vehemently opposed to the selection of Hanford as a candidate for the Nation's nuclear waste repository for many reasons. However, I am primarily concerned with the dangers it poses to Oregon and Oregonians. The Hanford Reservation is located on the Columbia River which stretches 343 miles between Washington and Oregon and is a main source of food, irrigation, and transportation for both States. Possible contamination of the Columbia River or the farmlands along I-84 would affect everyone in Oregon and would be devastating to the entire Northwest economy.

One of my major concerns about Hanford involves the potential problems of transporting large quantities of nuclear fuel assemblies and high-level radioactive waste across the country in unmarked, and at this point uncertified, casks on routes unknown to State and local officials. In the case of an accident, many of these officials would be unprepared to deal with the life-threatening situation presented.

Although nuclear materials currently comprise only 2-3 percent of this Nation's hazardous shipments, the transportation of nuclear materials has caused more apprehension and concern to the public than the transportation of gasoline or fertilizers, which make up most of the hazardous materials transported across the country. In addition, nuclear material shipments will increase substantially when nuclear wastes currently stored at commercial reactor sites are transported to a repository. DOE estimates that approximately 250 rail and 725 truck shipments originating in the eastern United States will be required annually to accomplish this task.

Because of safety concerns and the potential hazards of increased shipments of nuclear materials, Senator Hollings and I requested in 1984 that the Office of Technology Assessment [OTA] examine the safety of transporting hazardous materials. The results of the OTA study which are being aired today, indicate that a great deal still needs to be done to ensure the safe transportation of hazardous materials.

I am particularly disturbed by OTA's findings that suggest:

1. A lack of emergency response training. According to OTA, only 25 percent of emergency response personnel have received adequate training.
2. The need for improved coordination among the Federal agencies that regulate and test containers for spent nuclear fuel and high-level radioactive waste.
3. The need for better coordination between Federal, State, and local entities in developing and enforcing hazardous materials regulations.
4. Inadequate reporting of accidents or spills involving hazardous materials.
5. A lack of information about, or agreement on, the best routes for transporting hazardous materials.

The potential impact of increased shipments of nuclear material must be assessed now, so a coordinated program can be developed to ensure the safe transportation of radioactive materials. These hearings are the first step in the process, and I commend the Chairman for scheduling them.

Senator EXON. We will now go to our two Senators that we have. Senator Specter, you had requested first recognition. We have you on the list first, we will recognize you first.

After you have finished, we will recognize your colleague from Pennsylvania, Senator Heinz.

STATEMENT OF HON. ARLEN SPECTER, U.S. SENATOR FROM PENNSYLVANIA

Senator SPECTER. Thank you very much, Mr. Chairman.

At the outset, Mr. Chairman, I thank you, we thank you for this prompt hearing. I had written to the Chairman of the Committee, Senator Hollings, on April 22 of this year after a derailment in Pittsburgh, Pennsylvania, and had seen both you and Senator Hollings on the floor the same day, and you had accommodated this subject matter on hearings for today which I believe had already been scheduled as of that time, and we thank you for that because it is a major problem.

I would like to make just a very brief comment about the problem of transportation of urban radioactive materials. I appeared before this subcommittee in the 99th Congress. I had introduced Senate Bill 2356, the Urban Radioactive Materials Protection Act of 1984, which called for an environmental impact statement before highway routing of radioactive waste materials, and today for a few moments I would like to emphasize the problems which have struck Pennsylvania during the course of the past month on two very serious derailments. There has been a very serious derailment in North Carolina within the past 24 hours which raises the same issue.

On April 11, there was a 34-car derailment in the center of Pittsburgh, Pennsylvania, which caused the evacuation of some 16,000 residents there, and there were hazardous materials in the cars which were derailed. As yet, the matter has not been determined as to what was the cause of that incident.

Now there is a wheel which was found to have been broken. It is unclear at this stage whether it was broken as a cause of the accident or as a result of the incident, but that is a matter of great importance.

On May 6, there was a derailment in Confluence, Pennsylvania, in Somerset County, somewhat east of Pittsburgh, which was the fourth derailment in that area in the course of the past year and a half.

Now there is a major problem on safety on the railroads, and I think we have to ascertain what it is. In an era of deregulation, it may be that Congress will have to step back into this picture and impose some strong regulatory practices if this matter cannot be resolved elsewhere.

One of the matters of concern to me is the issue of drug testing which arose on the Pittsburgh derailment on April 11. The samples for testing of blood and other procedures for the drug testing had those matters sent to a laboratory in Utah. As of this moment, there has been no determination as to the results of that testing. I think that is an intolerable situation.

I have written the Federal Railway Administration and have gotten a long, detailed answer from Mr. John Riley who heads that Administration, purporting to justify the testing procedures, the backlogs, and so forth, but it seems to me that the people of Pittsburgh and the people of Pennsylvania and the people of the United States have a right to know and know promptly whether any drugs were being used as a causative factor on that derailment.

The people in Pittsburgh are considering legislation to stop trains. Well, I do not think you can stop trains on a city-by-city basis in this country, given the interstate commerce, and given the nature of our commercial system, but certainly if there is going to be this kind of a delay on having the results of drug testing I do believe the District Attorney of Allegheny County, if this should arise in the future, would have the authority to get his own blood sample and to make his own determination as to whether there are drugs in issue. That is the kind of a jurisdictional issue the District

Attorney would have some authority on, I say with some experience in that field.

But this business about the drug testing I think has to be expedited, and we have to know really what is involved here.

Another issue of concern to me is the problem of the length of time that it takes the National Transportation Safety Board to conduct their inquiries. I am told that it takes 6 to 12 months to finish their investigations, and have written to the Chairman, Mr. Jim Burnett, on that subject and again received a very nice letter in response with an explanation as to their problems on staffing.

But here again on a report of that importance, it ought not to take 6 to 12 months when people in cities like Pittsburgh and Confluence, and North Carolina, and across this country are worried about the issue of rail safety. It may be that the rails in this country are not of sufficient quality to bear the traffic which is going through towns like Confluence, Pennsylvania. If that is so, it seems to me that the rails have to be improved or the trains have to stop going through towns like Confluence, Pennsylvania.

I think this is an intolerable situation to have a man killed there, as he was earlier this month on May 6 in the tower, and it is an intolerable situation to have four derailments in the course of a year-and-a-half. It is an intolerable situation to have a derailment in Pittsburgh and not know the results of a blood test, or to have investigative procedures that take up to six months to a year to finish.

I thank you, Mr. Chairman, for convening these hearings. It may be that we are going to have to provide more resources to the National Transportation Safety Board, or the Federal Railway Administration, to answer these problems of safety because you simply cannot evacuate 16,000 people, or have deaths on a recurrent basis because of these deficiencies.

Senator EXON. I thank you, Senator Specter. We appreciate very much your being here. We may have a question or two, but we will now go to the distinguished Senior Senator from Pennsylvania.

Senator Heinz, we are delighted to have you with us this afternoon.

STATEMENT OF HON. JOHN HEINZ, U.S. SENATOR FROM PENNSYLVANIA

Senator HEINZ. Mr. Chairman, thank you very much. I commend you in holding these hearings. They could not be more timely, and it is a pleasure to be here with my colleague, Senator Specter.

To a certain extent I will allude to some of the same incidents that Senator Specter did, but to the extent there is any overlap or duplication I think it is important. It is important to realize that our safety requirements somehow are failing to meet the test of protecting the public safety.

It was true in Confluence, Pennsylvania, a week ago. It was true in Bloomfield, a part of Pittsburgh, just a month ago. I do understand that this hearing is devoted to the transportation of radioactive materials, and although I do support Senator Hecht's bill which would give a methodology for the rerouting of trains around heavily populated areas and using alternative routes, I think the experience that we have had in our State within the last month, month-and-a-half is, even though it has not directly involved radioactive materials, nonetheless is very germane to the subject.

Because although it was other kinds of hazardous materials on board, it might just as easily have been radioactive materials. So I would like to take my time to bring the subcommittee up to date on the findings of a hearing that I held in Pittsburgh a week ago yesterday in the Bloomfield section of that City where, as Senator Specter has mentioned, an evauation of some 16,000 people was required because of the derailment of a number of ConRail cars and the escape into the environment of some hazardous chemicals.

I think it is important to note at the outset that not only was there a tremendous amount of concern and fear on the part of some 16,000 people who left their homes, fear which as it turned out because the incident was very well handled by all concerned including the public safety people, nonetheless this was not a free escape. It cost the City of Pittsburgh alone some $200,000 just to conduct that evacuation. That is a lot of money if you multiply that many hundreds of times over.

Our failure, if indeed that is what it is, to do a better job on rail safety is directly—not indirectly—taxing people for public safety functions that we have a responsibility as legislators of the Federal Government for overseeing and implementing.

Let me take a moment to share with you some conclusions I came to as a result of our hearings.

The first conclusion that I came to is that an ounce of prevention is worth a pound of cure. To the extent that we can require various precautions to be taken that will make the operation of trains safer, we can avoid the cost, the dangers, the risks that we might otherwise expose ourselves and our constituents to.

For example, the FRA had some difficulty investigating the causes of the Bloomfield derailment because tapes from two of the three event recorders on the train, the black boxes, were missing. I believe, Mr. Chairman, that we need legislation that would mandate that each engine—and there are several, as you know, on often the rear as well as the front of a train which carries hazardous materials—to have a functioning event recorder that is secured and proofed against tampering.

Not only would that aid in the investigation of accidents, but it might provide an important performance monitor that would discourage engineers either from speeding or from mishandling trains.

A second lesson that we learned is that it is unconscionably slow getting the results of any kind of analysis of why these accidents have taken place. I have here an editorial from the *Pittsburgh Press*. It is entitled "The Three Week Blood Test."

This editorial was written on May 1, and of course it is now May 12, and we are yet to get the results of just simple blood tests, simple urine tests, for drugs. There is no justification whatsoever for that kind of an excessive one-month delay.

In order to try and get to the bottom of why not just blood tests and drug tests, but all the other kinds of analyses that seem to be required and which seem to take so long, seem to drag on forever, I have asked the General Accounting Office to look and to report to us on what it is that we might be doing differently and that would allow us to cut the time in half at least for the NTSB and FRA investigations.

I will conclude in a second, Mr. Chairman. I would urge the subcommittee, if they were so minded, to join me in that request so we might have the GAO's expertise in trying to determine why it is it takes 6 to 12 months to get results.

The last point I would like to make is simply that there seem to be warning signs that we are ignoring. When there are four derailments in a little tiny town such as Confluence in Somerset, Pennsylvania, within a year or a year-and-a-half, somebody ought to notice. If the railroad involved does not notice, the Federal Railroad Administration ought to take notice and, more importantly, take action at least to slow the train, or to repair the cause of the incident.

It is my belief that we should not have to wait for tragedy to strike before actions are taken. So, Mr. Chairman, I want to thank the subcommittee for their interest in this matter, and I hope that we can avoid these kinds of problems in the future. I know that with this Committee's involvement we have a very good chance of doing so.

I thank you, Mr. Chairman.

Senator EXON. Thank you. We appreciate very much the statement of both you and your colleague.

I only have one question and, since the two Senators from Pennsylvania may have other commitments and we do not want to hold you up here, I just have one question and then you are welcome to stay if you wish; otherwise, we will be glad to excuse you.

I was struck by what was a three-week delay, and now is obviously over a month's delay in getting the test information back. You indicated in your testimony, Senator Specter, that you had answers to your inquiry from two of the regulatory agencies.

What possible reason did they give for such an unreasonable delay in getting back those tests?

Senator SPECTER. The answer which Mr. Riley has given at the FRA is that they were backlogged. There was a change from test laboratories in Oklahoma to Utah, and that they were trying to get it done as fast as was possible.

Senator EXON. Do you have anything to add to that, Senator Heinz?

Senator HEINZ. Yes. I would say that what Senator Specter got was not an answer. He got excuses. The excuses are pretty lame. There just cannot be any reason why it takes in excess of a month. I am told that we will finally, at long last, get those results today. Apparently one of the excuses that they have given is that they determined that one of the men on the train had been taking some kind of prescription drug.

When that was tested, when his blood was tested that prescription drug created a positive result. Well, I do not know why we should have such inept protocols that when blood or urine samples are being taken that it cannot be determined right at the beginning whether somebody is on medication.

It seems to me that our whole approach is shot through with sloth and sloppiness that ought to embarrass everybody who has anything to do down in the Executive Branch with keeping track of why these accidents happen.

Senator SPECTER. Mr. Chairman, I would associate myself with what my distinguished colleague, Senator Heinz, has said about the inadequacy of the response. I would emphasize that if something is not done about this issue, local law enforcement is not going to sit back, and they should not sit back. While local authorities cannot stop trains—they would be stopped in every municipality across the country—local law enforcement has jurisdiction if somebody is operating a train under the influence of alcohol, or under the influence of drugs.

Local law enforcement can take custody of the individual for purposes of conducting those tests, search and seizure, approved under legal standards and get the results. That just has to be corrected. There is just no excuse for it.

Senator EXON. It seems to me, and I have never been a prosecutor, but I think at least Senator Specter has at one time, and it seems to me from a law enforcement perspective—and I am not prejudging this at all; I am hopeful that these tests will come back negative—but it seems to me that you should have an arrangement, as suggested by the Senior Senator from Pennsylvania, that when you take the test, if you are on any prescription drugs, you should so indicate at that time.

Secondly, it is quite obvious to me that from the standpoint of prompt follow-up and possibly the examination of others by local prosecutors and enforcement officers, we have got to have some kind of a speedier system than sending all of this to Utah someplace when there must be some qualified agency I would think on the East Coast somewhere that would be able to accomplish these tests.

Senator SPECTER. There are one or two, Mr. Chairman, in Pennsylvania.

Senator EXON. I am sure you do not want to get parochial with the tests. In any event, I am suggesting very seriously that I had no idea that it was taking this long, and we do not have to wait for legislation on that. The Committee will take some action in the form of suggestions, at least, to those Administrators to see if we cannot speed things up.

I have no further questions.

Do you have questions, Senator Adams?

Senator ADAMS. Only one. Did you ask the question on the derailments as to whether or not a decision had been made at the departmental level, or at the administrative level to close down that line until repaired?

Senator HEINZ. The one in Confluence, Pennsylvania?

Senator ADAMS. Right.

Senator HEINZ. CSX announced within the last few days that they were putting that portion of the line under a very low speed restriction. My recollection is 10 miles an hour. But no closing of that line has been mandated.

Most of the concern, as I understand it, of the people in Confluence is excessive speeds coming through their town at all hours of the day and night. As far as I know, the people in Confluence are satisfied with that step, but I am sorry that that step or some other remedial action was not taken before a person was killed when the train went off the tracks.

Senator **Adams**. Thank you, Mr. Chairman.

Senator **Exon**. We thank the Senators from Pennsylvania for their interesting and helpful testimony, and you are excused.

Next we will go to Senator Hecht who came in next.

Senator **Hecht**. Senator, I am not on a time frame. Senator Proxmire is a chairman. Are you in a hurry? I would sure let you go on, if you need to.

Senator **Proxmire**. No, I do not have to leave here until 5 minutes to 3:00, so that is fine. Go right ahead.

Senator **Exon**. Senator Hecht.

Senator **Hecht**. I should be done about 4:30. Is that all right?

Senator **Exon**. Are you sure you meant to send that waiver back to him, Senator Proxmire?

We will see that he abides by the lights. It was very thoughtful of you, Senator Hecht, to offer to stand aside, but I do recognize you now for your statement.

STATEMENT OF HON. CHIC HECHT, U.S. SENATOR FROM NEVADA

Senator **Hecht**. Thank you, very much.

Mr. Chairman, I appreciate the opportunity to appear before the subcommittee today to share my views regarding the transportation of high-level radioactive waste and spent nuclear fuel.

I would like to commend this subcommittee for holding the hearing because transportation is one aspect of the broader nuclear waste issue that has people concerned all across the country. As the subcommittee considers the nuclear waste transportation problem, I would encourage the Members to consider the need for legislation to address at least three parts of the transportation issue.

First, we must give our local governments a greater role in the choice of transportation routes and better advance notification of waste shipments. I understand that under the current system, some local governments, and even State governments, have less than full cooperation from the several Federal agencies that are allowed to ship spent nuclear fuel and high level radioactive waste around the country.

There is no excuse for State and local governments which bear the greatest responsibility for the health and safety of their citizens to be kept in the dark. They have a need, and indeed a right, to know what is going on within their borders. We should also definitely take stronger steps to avoid exposing our population centers to the risk of nuclear waste transportation.

If waste can be moved safely and, at the same time, routed so that it avoids our cities then I think this is clearly the way to go.

Second, we must examine the safety of the packages used to transport high-level radioactive waste and spent nuclear fuel, and make it clear that these materials are only to be transported in packages approved by the Nuclear Regulatory Commission.

Serious questions have been raised about the adequacy of both the design standards and the tests that are used in licensing waste packages. There have also been numerous complaints about Federal agencies using waste packages that have not been approved by the Nuclear Regulatory Commission. I think it makes sense to have one agency determining what is a safe package and what is not, rather than allowing several agencies to act in an apparently inconsistent manner. Inconsistent action by the Federal Government only feeds the fears of the public.

Third, I would suggest that the Committee look for ways to reduce the number of waste shipments that are made by the Federal Government. Possible ways to achieve this include requiring that waste be consolidated before it is transported, or stored for a sufficient period of time so that the waste cools down to the point where more waste can be safely transported in the same package.

Another way to reduce a number of the shipments would be to encourage transportation of waste by rail, instead of using more numerous truck shipments on the Nation's highways.

I recently introduced a bill, S. 1141, which would require that waste be stored for 50 years before being transported to a repository. I believe that enactment of that legislation would be helpful to the subcommittee in dealing with nuclear waste transportation because the material being moved would be cooler and less radioactive than would be the case under the current plans of the Energy Department.

In a few days I will be introducing comprehensive legislation on nuclear waste transportation. I anticipate that my bill will be referred to this subcommittee, and I hope you will have the opportunity to consider the provisions of my bill as you work on the measures pending before you.

Mr. Chairman, I believe now is the time for the Congress to deal with the nuclear waste transportation issue. It would not be wise for us to sit back and wait until a monitored retrievable storage facility is built, or a repository site has been chosen.

The Department of Energy is already exploring designs for waste containers, and in two or three years waste will regularly be moving to the waste isolation pilot project in New Mexico.

I would like to thank the subcommittee once again for allowing me to testify here today. I look forward to the opportunity for the Full Committee to consider whatever proposals the subcommittee develops on this subject.

Thank you, Mr. Chairman.

Senator EXON. Thank you very much, Senator Hecht. We may have a question or two.

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR EXON AND THE ANSWERS

Question 1. How would you address the argument made by the railroad industry that the "safest and best maintained tracks are those serving heavy industrialized major metropolitan areas?"

Answer. The goal of any nuclear waste transportation system must be to move the material over the safest route possible. If, on long transcontinental trips, the safest route sometimes necessarily requires transportation through an urban area, then that may be unfortunate, but nonetheless necessary. My main concern is that local governments be given a fair chance to suggest safer routes that avoid heavily populated areas, and that they not be forced to meet an unreasonable standard in getting the Department of Transportation to adopt an alternate route.

Rail shipments from all around the country will converge in the vicinity of a high-level nuclear waste repository, or a monitored retrievable storage facility. In this situation, I think it would be entirely reasonable to protect any nearby urban areas by constructing special rail lines that allow direct shipments to the facility, while completely avoiding densely populated areas.

Question 2. Additionally, in your bill would "time exposure" factor into the determination that a route is safer?

Answer. It would be reasonably, in my opinion, to consider both the time-of-day of travel, and the length of time required to travel alternate routes, in comparing the relative safety of those routes.

Senator EXON. I would like to recognize Senator Pressler at this time for any statement that he has to make.

Senator PRESSLER. Mr. Chairman, I shall say no more at this time except to commend you, Mr. Chairman, for this important hearing.

I see another of my colleagues waiting to speak, so I shall spend my time listening to him.

Senator EXON. Thank you.

We are pleased to recognize the Senior Senator from Wisconsin, Senator Proxmire. We are delighted to have you with us this afternoon.

STATEMENT OF HON. WILLIAM PROXMIRE, U.S. SENATOR FROM WISCONSIN

Senator PROXMIRE. Well, thank you very much, Chairman Exon, Senator Adams, Senator Pressler.

Your Committee has the opportunity to create what I think would be an effective Federal scheme of transportation regulation in an increasingly important area. The current Federal system of nuclear transportation is inadequate, and it gets worse. The Hazardous Materials Transportation Act and Atomic Energy Act preempts states from acting themselves. The result, there often is no regulation at all.

Now why am I especially concerned? Wisconsin has had unique exposure to nuclear waste transportation. Fully 45 percent of all the nuclear waste transported by truck in the United States moved through Wisconsin.

The State also hosted the largest rail shipments by volume yet sent, the 30 shipments of spent fuel which traveled from Northern States Power in Monticello, Minnesota, to interim storage in Morris, Illinois. These recently completed rail shipments point out the need for new legislation on both the State and the Federal level.

Wisconsin wanted to impose a limited list of health, safety, and environmental protection measures on the utility and its carriers. It could not. A Federal court ruled that the Hazardous Materials Transportation Act and the Atomic Energy Act effectively eliminated the role for the States. Now that restriction, Mr. Chairman, makes no sense whatsoever.

States, not Federal agencies, bear the emergency response burden should accidents occur, and States traditionally are responsible for local transportation, health and safety regulations under their police powers.

In contrast, the Federal Railway Administration has only a few dozen inspectors for all hazardous cargo nationwide, and almost no special nuclear safety regulations. It is even worse than that, because the Interstate Commerce Commission denied the rail industry request for a special nuclear waste tariff. Railroads seldom used dedicated trains, a simple safety measure.

Now the United States has not yet suffered any major accidents from highly radioactive cargo. This may be more a result of luck and a relatively small volume of shipments than of an inherently safe transportation system. Within the last year, a truck with a nuclear cargo fell into the Snake River in Idaho, and a train car carrying nuclear waste was briefly lost in Ohio.

Even worse, last October there was an apparent attempt to sabotage one of the trains involved in the Wisconsin shipments. Mr. Chairman, on April 10 I reintroduced a bill, S. 1008, I first offered in 1985 which beefs up Federal regulation of highly radioactive nuclear cargos while providing a greater role for the States.

Since this bill amended the Atomic Energy Act, it was referred to the Committee on Environment and Public Works. However, the bill works at least equally as well as an amendment to the Hazardous Materials Transportation Act under consideration by this Committee.

While I have designated the Nuclear Regulatory Commission as the lead Federal agency, the bill could easily be modified by substituting the Department of Transportation.

The bill has two parts. First, the lead agency licenses shipments of high level nuclear materials or spent fuel after analysis of relative hazards and risks of alternative routes and transportation modes, evaluation of emergency preparedness, environmental features of the route, factors affecting site cleanup, potential health and safety effects and the need for shipments.

Second, the bill sets out the rights of States to regulate nuclear shipments, and under its terms States and Indian tribes can implement requirements for accident reporting, inspection, fees, advance notice of shipments, cleanup procedures, and other requirements which ensure local health, safety, and environmental protection.

Narrow interpretation of existing Department of Transportation requirements under the HMTA severely limits States from imposing these kind of regulations. Mr. Chairman, nuclear shipments will increase as utilities run out of storage space for spent fuel, and the Department of Energy gears up under the Nuclear Waste Policy Act.

The United States cannot afford to ignore this problem any longer. I might add, finally, Mr. Chairman, that David Woodbury of the Wisconsin Department of Natural Resources is here. He helped us write the Act. He is an expert on the technicalities, and he will be happy to answer any technical questions you may have.

Senator Exon. Senator Proxmire, thank you very much. We will take a very careful look at that legislation.

I would like to mention for the record, I intended to ask two questions of Senator Hecht, and I would like to ask staff to write to him and ask him to answer these for the record.

I might ask the same questions of the Senator from Wisconsin as of Senator Hecht. I wanted to ask the question, since he is suggesting that we route, or at least we have legislation routing hazardous trains around metropolitan areas, what his answer is to many of the railroads who say the best-maintained and safest tracks are through our metropolitan areas.

Also, when we start routing trains around other large areas, has he taken into effect the so-called time exposure factor; that they are on the rails that much longer. If the staff would ask those two questions of Senator Hecht and ask him to reply, since he has left.

I might ask the same two general questions of the Senator from Wisconsin.

Senator PROXMIRE. I think the Senator from Nebraska has asked very appropriate questions. It is a matter, it seems to me, of the individual situation. I think that Senator Hecht may well be correct that it would be desirable under many circumstances to require that they be routed around heavily populated areas. But I think the Senator from Nebraska is undoubtedly correct, too, that it may well be that the major cities, or the cities with heavy populations are the safest under the circumstances.

I think that is a decision that should not be made by legislation and freeze the regulations into a form that might prevent the wisest decision under the circumstances.

I would say, however, that everything that can be done to consult local people who really know their cities and know where the traffic is heaviest and know where the safety is, would be very desirable.

Senator EXON. I think that is an excellent point you made, Senator Proxmire. It might well be that if you were going through, if you are going through the area of a major city, then I think possibly the local officials should be contacted as to the proposed route to see if they have any suggestions.

It might well be that they would say we do not have any objection to your bringing this through here at 3:00 a.m. in the morning when there would be the least of all traffic; you could move it through and get it by our city and out of here at a faster rate than if you started going around the city on tracks that would require no more than 5 to 10 miles per hour. So I think the local officials should have some say-so in that area, and I would think that any legislation we would write in that area would have to take into consideration the recommendations of the so-called safety experts, and the local officials who would be required to respond in case something happened.

Senator PROXMIRE. There is no question in my mind at all, Mr. Chairman, that local people understand far better than the Federal inspectors and experts could understand their particular city, or their particular State. That is their job, and we have far more people, of course, in the States than we have in the Federal Government to work on that.

Senator EXON. Senator Adams.

Senator ADAMS. I just have one question, Senator Proxmire.

You have looked into this. If we drastically expand the movement of nuclear materials, and we are going to start in 1988 with the transuranic waste going to New Mexico, and the proposal is that we expand either to a monitored retrievable storage system or later to a repository of these nuclear shipments, do you think our transportation system at this point is in a position to carry all of those safely for a sustained period of time?

Senator PROXMIRE. Senator Adams, I know of nobody in the country who is a better authority on that than you are. You were

Secretary of Transportation. I am certainly sitting at your feet on that one. Whatever position you take on that, I would enthusiastically support.

I just do not have anything like the kind of background you have, or the kind of experience you have to make a decision in that area.

Senator ADAMS. I thank you for that, Senator, because I am deeply concerned that we are moving into a position of transporting increasing numbers of waste through enormous distances, and your State is a bridge State just as Chairman Exon's is a bridge State, and I do not think our transportation system is anywhere near prepared to handle this kind of a burden, and it concerns me deeply for the whole Nuclear Waste Storage Act, as well as the WIPP project which is in New Mexico. I do not think we are ready.

Thank you, Mr. Chairman.

Senator EXON. Senator Pressler.

Senator PRESSLER. No questions.

Senator EXON. We are pleased to welcome Senator Danforth.

Senator Danforth, if you have any opening statement we would be glad to have it.

OPENING STATEMENT BY SENATOR DANFORTH

Senator DANFORTH. I have an opening statement, Mr. Chairman.

Mr. Chairman, I would like to thank you for your interest in the safe transportation of hazardous materials as we commence this final hearing in a series of three on this far-reaching and complex subject.

Transporting hazardous cargo—be it petroleum products, chemicals, radioactive waste, or other materials—is an unfortunate but absolutely necessary part of this nation's daily life. Although only about 3% of all hazmat shipments are radioactive in content, and such shipments are more thoroughly regulated than others, the threat of harm looms especially large in this area. It is the responsibility of citizens and public servants at the federal, state, and local level to work together to see that our families and property are protected from the potential catastrophic impacts of an accident involving any hazardous material. However, with regard to radioactive materials we must be particularly vigilant.

The transportation of nuclear wastes and spent nuclear fuel is of particular concern to me since the Department of Energy (DOE) began shipping core materials from the Three Mile Island (TMI) reactor in Pennsylvania to DOE's research facility in Idaho Falls through my own state of Missouri. Trains dedicated to this task began moving about a year ago, and we'll soon pass the the halfway mark in what many Missourians have viewed as a frightening ordeal. Public confidence is hard to build up in this area, despite the good safety record to date. Uncertainty and a fear of the unknown continue to exist, and are greatly magnified when "the threat" is going through your own backyard.

An inherent difficulty here is that the threat will not be gone when the last TMI shipment has passed through St. Louis and Kansas City and left the state. The reality of the situation is that when storage capacity at nuclear power plants runs out and temporary or permanent repositories are located sometime around 1998, we'll doubtless look back at this time when nuclear shipments were few and far between as the "good old days." Our immediately task is to decide what needs to be done to be fully prepared for the increased demands of the future. We can begin by realizing that the future began yesterday.

The witnesses we will hear from today offer valuable tools. I know we will assess the concerns they raise and the policy options they recommend very carefully, and I hope that we can find workable solutions to the problems they identify. I cannot overemphasize the importance of cooperation at all levels as we proceed. There is no turning back the clock. The nuclear age is upon us for better and for worse, and we must face the challenge it presents now.

I have no question, Mr. Chairman.

Senator EXON. Thank you.

Thank you very much, Senator Proxmire.

Senator PROXMIRE. Thank you very much, Mr. Chairman.

Senator EXON. We will move on to panel one. I would like to call to the witness table at this time Ms. Cynthia Douglass, Administrator of the Research and Special Programs Administration, Department of Transportation; Ms. Jill E. Lytle, Director of Defense Waste and Transportation Management, Defense Programs, Department of Energy; and Mr. Victor Stello, Jr., Executive Director of Operations, U.S. Nuclear Regulatory Commission.

Cynthia Douglass, we are pleased to have you sitting down there again as a witness, especially since you were a very valued staff member of this Committee. So I will take the prerogative as the chairman to recognize you first.

STATEMENT OF M. CYNTHIA DOUGLASS, ADMINISTRATOR, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY ALAN ROBERTS, DIRECTOR OF THE OFFICE OF HAZARDOUS MATERIALS TRANSPORTATION; JILL E. LYTLE, DIRECTOR OF DEFENSE WASTE AND TRANSPORTATION MANAGEMENT, DEFENSE PROGRAMS, DEPARTMENT OF ENERGY, ACCOMPANIED BY LAKE BARRETT, DIRECTOR OF TRANSPORTATION, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, AND LARRY HARMON, DIRECTOR, TRANSPORTATION MANAGEMENT DIVISION; VICTOR STELLO, JR., EXECUTIVE DIRECTOR OF OPERATIONS, NUCLEAR REGULATORY COMMISSION, ACCOMPANIED BY CHARLES McDONALD, CHIEF, TRANSPORTATION BRANCH

Ms. DOUGLASS. Well, thank you very much.

I am pleased to be here today to discuss the Department's role in carrying out our responsibilities under the Hazardous Materials Transportation Act for the safe transportation of radioactive materials: There are three primary congressional Acts directly related to the surface transportation of radioactive materials. The Hazardous Materials Transportation Act; the Atomic Energy Act; and the Nuclear Waste Policy Act.

The Hazardous Materials Transportation Act provides the primary legislative authority for assuring the safety transportation of hazardous materials. That Act requires the Secretary of Transportation to establish a regulatory program to carry out the purposes of the Act. Responsibility for implementation of the Act has generally been delegated by the Secretary to the Research and Special Programs Administration.

The Atomic Energy Act authorizes the Nuclear Regulatory Commission to license and regulate the receipt, possession, use, and the transfer by licensees of most kinds of radioactive materials. In addition, the Nuclear Regulatory Commission Authorization Act directed the Commission to develop regulations requiring licensees to provide State governments with advance notification for certain shipments of nuclear waste.

The Nuclear Waste Policy Act established a national policy for the safe storage and disposal of spent nuclear fuel and high level waste. The Nuclear Waste Policy Act places responsibility for providing for the actual transportation of these materials on the Department of Energy and requires that such transportation be subject to the regulations of the Department of Transportation.

In addition to these responsibilities, the DOE also carries out extensive programs under the Atomic Energy Act and produces nuclear waste both at its research facilities such as Brookhaven National Labs in New York, and at defense facilities such as the Hanford site in Washington.

In most of these activities, DOE is a shipper subject to DOT rules and regulations which incorporate by reference the NRC standards for packaging of high level radioactive materials. The DOT and the NRC have overlapping regulatory responsibilities. Therefore, in order to coordinate our efforts we adopted a Memorandum of Understanding in 1979.

Basically, the MOU gives DOT responsibility for developing overall safety standards covering the mechanical condition of carrier equipment, qualifications of carrier personnel, loading and unloading, handling, storage, vehicle placarding, classification of radioactive materials, design specifications, and performance requirements for packages for low level radioactive waste.

The NRC is responsible for regulating the package design for high level spent fuel. DOT has incorporated by reference the NRC's packaging standards and the security standards for these materials.

DOT and DOE have shared responsibilities under the Nuclear Waste Policy Act. Again, we adopted a MOU in 1985 to coordinate our activities. DOT, NRC, and DOE realized that the congressionally mandated framework can be confusing at times, particularly to the States. In addition, we recognized the States interest and concerns in ensuring that radioactive materials shipments moving through their jurisdictions are transported in as safe a manner as is practicable.

In response to their concerns, RSPA is sponsoring, and NRC and DOE are participating in, Federal-State-regional workshops designed to exchange information and concerns. These workshops will be held annually and will, we believe, result in a more cooperative Federal-State partnership in this endeavor.

With respect to DOT's specific responsibilities, the Department has promulgated and enforces detailed regulations that cover communications, packaging, shipping, carriage, storage, and handling of radioactive materials by all modes of transport. In its most extensive hazardous materials rulemaking to date, the Department addressed the question of highway routing of high level radioactive materials.

This rulemaking requires high level spent fuel or waste to be transported either over the interstate system selected to reduce time in transit, or over a state-designated alternative route. Again, our record has been excellent and there has never been a death or serious injury due to a release of radioactive materials.

Finally, on April 24 I testified that we do have a number of areas of concern in the hazardous materials transportation area, and that we are considering and intend to propose, legislation very shortly to address some of these concerns.

In conclusion, I believe that our excellent safety record for transporting radioactive materials is due in part to the regulatory program my colleagues and I are carrying out. An equal component of this success is due to the responsible shippers and carriers who transport radioactive materials.

Further, I believe our budget and program for the next year will allow us to make further improvements. We would very much like to have your support, and we welcome your advice.

Thank you.

Senator Exon. I assume the material that has just been handed me is your statement, which you have summarized, and I assume you would like to have those entered into the record? Is that correct?

Ms. Douglass. I would like that, thank you.

Senator Exon. Without objection, that is so ordered.

[The statement follows:]

Statement of M. Cynthia Douglass, Administrator, Research and Special Programs Administration, DOT

Good afternoon. I am pleased to be here to discuss the Department's role in carrying out our responsibilities for the safe transportation of radioactive materials.

There are primarily three Congressional Acts directly related to the surface transportation of radioactive materials: The Hazardous Materials Transportation Act of 1974, as amended; the Atomic Energy Act of 1954, as amended; and the Nuclear Waste Policy Act of 1982.

The Hazardous Materials Transportation Act (HMTA) of 1974 provides the primary legislative authority for assuring the safe transportation of hazardous materials by all modes. That Act requires the Secretary of Transportation to establish a regulatory program to carry out the purposes of the Act. Responsibility for implementation of the Act has been delegated by the Secretary to the Research and Special Programs Administration (RSPA).

The Atomic Energy Act, as amended, authorizes the Nuclear Regulatory Commission (NRC) to license and regulate the receipt, possession, use, and transfer by licensees of most kinds of radioactive materials. In addition, the NRC Authorization Act of 1980 directed the Commission to develop regulations requiring licensees to provide state governments with advance notification for certain shipments of nuclear wastes. These prenotification regulations are currently in effect and can be found in 10 CFR 73.37(a)-(f).

The Nuclear Waste Policy Act (NWPA) of 1982 established a national policy for the safe storage and disposal of spent nuclear fuel and high-level waste. The NWPA places responsibility for providing for the actual transportation of these materials on the Department of Energy (DOE) and requires that such transportation be subject to the regulations of the Department of Transportation (DOT).

In addition to these NWPA responsibilities, DOE carries out extensive programs under the Atomic Energy Act of 1954, as amended, and produces nuclear materials and wastes both at its research facilities, such as Brookhaven National Laboratory in New York, and at defense facilities, such as the Hanford Site in Washington. In most of these activities, DOE is a "shipper" subject to DOT rules and regulations, which incorporate by reference the NRC standards for packaging of high-level radioactive materials.

DOT and the NRC have overlapping regulatory responsibilities. Therefore, in order to coordinate our efforts, we adopted a Memorandum of Understanding (MOU) in 1979. Basically, the MOU gives DOT the responsibility for developing overall safety standards covering the mechanical condition of carrier equipment, qualifications of carrier personnel, loading and unloading, handling, storage, and vehicle placarding requirements. DOT has responsibility for developing safety standards for classifying radioactive materials, for the design specifications and performance requirements of packages for quantities of radioactive materials, other than fissile materials not exceeding Type A limits, and for low specific activity (LSA) materials. The NRC is responsible for regulating saftey in receipt, possession, use, and transfer of byproduct, source, and special nuclear materials. Also, NRC reviews and approves package design for fissile materials and for other radioactive materials exceeding Type A limits. DOT has "incorporated by reference" the NRC packaging standards for such materials.

DOT and DOE have shared responsibilities under the NWPA of 1984 and, therefore, we adopted a MOU in 1985 to ensure that there would be no duplication of effort. Basically, that MOU specifies that the management of the transportation of spent fuel and high-level radioactive wastes under the NWPA resides with DOE's Office of Civilian Radioactive Waste Management (OCRWM), and that the transportation of this material to any repository developed under the NWPA will be subject to applicable DOT regulations promulgated by RSPA. The MOU also provides for the establishment of procedures for consultation and the exchange of information.

DOT, NRC and DOE realize that the Congressionally mandated framework can be confusing at times, particularly to the states. In addition, we recognize the states' interest and concerns in assuring that radioactive materials shipments moving through their jurisdictions are transported in as safe a manner as is practicable. In response to their concerns, RSPA is sponsoring, and NRC and DOE are participating in, federal/state regional workshops designed to exchange information and concerns with the states. The workshops will be held annually and will, we believe, result in a more cooperative federal/state partnership in this endeavor.

The remainder of my testimony will discuss how RSPA has carried out its responsibilities under the HMTA, NWPA, and applicable MOU's and programs anticipated in FY 88 and FY 89.

DOT/RSPA REGULATIONS

DOT has regulatory responsibility for the transportation of radioactive materials. The Department promulgates and enforces detailed regulations that govern communications, packaging, shipping, carriage, stowage, and handling of radioactive materials by all modes of transport.

The DOT Hazardous Materials Regulations include a comprehensive system of regulations pertaining to the shipping and transportation of radioactive materials. They include requirements pertaining to preparation of shipping papers, placarding of vehicles, use and preparation of packagings, the marking and labeling of packagings, loading, and transportation operations, including driver training. The intent of the regulations is to fully communicate the presence of radioactive materials during transportation, minimize radiation exposure, reduce the potential for damage to their packagings during transportation, and otherwise assure they are safely transported.

Probably the Department's most extensive hazardous materials rulemaking to date addressed the question of what regulations were required to govern the highway routing of radioactive materials. This rulemaking, known by its docket number, HM-164, resulted in a general routing rule for all placarded radioactive materials and a specific routing rule for highway route-controlled quantity shipments, such as spent fuel. Both routing rules have risk minimization as their basic goal. In addition, DOT regulations require of highway route-controlled quantity radioactive materials to be transported either over Interstate System highways selected to reduce time in transit (using Interstate System beltways or bypasses when available), or over a state designated alternative route.

As stated, DOT regulations include a mechanism for state designation of alternate routes for highway route-controlled quantity shipments. DOT recognizes that not all segments of the Interstate System are of equal caliber and that in certain areas, non-Interstate routes may be available which could provide an equal or greater level of safety. We further recognize that the task of identifying preferable alternative local routes are best performed by states in consultation with affected jurisdictions. Several states have availed themselves of this provisions to designate non-Interstate preferred routes.

While the routing aspects of HM-164 have generated the most discussion, other provisions ensure the safe transport of high-level radioactive materials by highway. A driver training requirement was established that requires certification that each driver is familiar with the appropriate hazardous materials regulations, the properties and hazards of the radioactive materials being transported, and the procedures to be followed in case of an accident or other emergency. In addition, HM-164 requires the motor carrier of spent fuel to be in compliance with physical security plan required by NRC, or an equivalent plan approved by DOT.

Public safety is the overriding reason for the development and enforcement of the entensive body of regulations. the single most important factor contributing to this safety is the packaging of the materials.

There are three basic types of packagings for radioactive materials: Type A, Type B, and LSA.

Type A packaging is any packaging which is demonstrated to be able to withstand, without loss of contents or shielding, a series of tests which simulate conditions normally incident to transportation. Radiopharmaceuticals, radioassay materials used in research and medicine, and many laboratory and reactor wastes are shiped in Type A packages. DOT is responsible for promulgating regulations for these packages, and these regulations are incorporated by reference by NRC.

Type B packaging must meet more stringent requirements and tests. A Type B package must be able to survive a rigorous series of tests, including drop, puncture, fire, and water immersion, which represent a severe accident environment. Spent nuclear fuel and radioactive sources used in medical therapy are typical of materials shipped in Type B packages. NRC has the lead responsibility for regulating these packages, and their regulations are incorporated by reference by DOT.

Low Specific Activity (LSA) materials are shipped in "strong and tight" packagings which permit no leakage of radioactive materials under normal transporatation conditions. Most frequently, drums and boxes are used for LSA materials, which typically include materials such as uranium ores and most laboratory medical wastes. DOT is responsible for LSA package regulations, and again, these regulations are incorporated by reference.

The radioactive materials transportation safety record has been excellent due to this comprehensive body of regulations. In over four decades of transporting radioactive materials, there has never been a death or serious injury due to a release of radioactive materials. The Department sees no evidence to alter the conclusion that, when current federal rules are complied with, radioactive materials can continue to be transported with a confident level of safety.

As I have stated, our relationship with DOE is best characterized as one of regulator-regulated. This is not to say that we do not cooperate with one another when appropriate. A question arose at the April 24, 1987, hearing regarding the extent to which the Department of Energy is subject to the regulations of the Department of Transportation. DOE is clearly subject to our regulations when it offers materials for transport in commerce; for example, when DOE contracts for transportation services with a commercial carrier, such as highway shipments from Brookhaven National Laboratory, or rail shipments—from Three Mile Island. When DOE uses its own equipment and personnel to transport radioactive materials for national security purposes, DOE is subject to DOT regulation. DOE has agreed that all shipments made under the NWPA will be made in compliance with all DOT regulations.

DOT INSPECTION AND ENFORCEMENT

Because of the vast number of trucks carrying hazardous materials, the assurance of regulatory compliance requires more than an exclusively federal enforcement effort. A federal/state enforcement partnership is an essential part of the federal regulatory program. All of the more than 1,000 federal transportation safety inspectors have received general training pertaining to the inspection of radioactive shipments, and approximately 200 have received in-depth training that gives them the ability to make more detailed inspections of radioactive shipments. RSPA is working to expand the number of qualified radioactive materials inspectors through the Cooperative Hazardous Materials Development Program (COHMED) and our nuclear workshops.

In 1984, RSPA issued a document entitled, "A Guide for the Inspection of Radioactive Material Shipments by Motor Vehicle or at Freight Facilities." The guide provides step-by-step procedures to be followed by federal and state inspectors when they conduct radioactive materials inspections. RSPA has also issued a document entitled, "All About Radioactive Materials Packages." This guide provides assistance to supervisors at cargo terminals in making determinations that the radioactive materials they are receiving for transportation are in compliance with federal regulations. Currently, RSPA is working on the development of an inspection guide which will specifically address the transportation of "Highway Route-Controlled Radioactive Materials", including spend nuclear fuel.

It is also important to note that the Commercial Vehicle Safety Alliance (CVSA) is developing, under DOE contract, uniform safety inspection criteria for commercial motor vehicles used to transport spent nuclear fuel. The CVSA is an organization of state and provincial governmental agencies and representatives from private industry in the United States and Canada, dedicated to improvement of commercial vehicle safety. CVSA's primary objective is implementation of uniform safety inspection criteria for all commercial vehicles, and the nuclear inspection project is a special emphasis area. Only the representatives of the more than 40 participating state enforcement agencies may vote on issues addressed at CVSA meetings. However, RSPA and FHWA actively participate in CVSA meetings in a supporting role. Recently, our staff participated in a CVSA meeting during which a first draft of the inspection criteria for vehicles transporting nuclear materials was completed. I should add that two of the founding states of the CVSA program are Washington and Oregon, and they remain very active in its activities.

To assist us in this effort and to ensure better communication and coordination between ourselves and among the states, RSPA sponsors the COHMED Program which allows the federal and state people responsible for hazardous materials transportation to share information regarding regulations, training, interpretations, enforcement, and research, which will assure a better regulatory scheme and greater uniformity.

As previously mentioned, we have also initiated a series of regional workshops focused on radioactive materials transportation issues. Workshops have been held in Boise, Idaho, and Santa Fe, New Mexico, and one is scheduled for Cedar Rapids, Iowa, for June 1987. Two more workshops, in the Northeast and Southeast, will be held later this year. These workshops were implemented by RSPA with the cooperation of Department of Energy, Nuclear Regulatory Commission, and Federal Emergency Management Agency to develop a coordinated and cooperative effort among state, Indian nations, and federal agencies which have regulatory and enforcement responsibilities for assuring the safe transportation of radioactive materials. The agencies share information regarding nuclear materials, emergency preparedness and response to incidents, inspection and enforcement, and notification of shipments. We expect to hold these workshops on an annual basis and continue active support and participation in public forums directed at resolving the public's concerns for the safe transport of radioactive materials.

The recent rail shipments of radioactive debris from the Three Mile Island facility in Pennsylvania to the Department of Energy's Idaho National Engineering Laboratory have attracted substantial public interest. As a matter of policy, the Federal Railroad Administration (FRA) is inspecting the track and signal system over the entire route prior to the start of any nuclear shipping campaign by rail. This rail system inspection is repeated at least every six months. In addition to the rail and signal system inspection, FRA performs a safety inspection of the rail car prior to every shipment, and RSPA performs periodic radiation safety inspections of the casks. This policy has applied to the Three Mile Island shipments and rail shipments for Cooper Station, Nebraska, and Monticello, Minnesota, to Morris, Illinois.

DOT TRAINING

A particularly important aspect of the national program to assure safety and uniformity in the transportation of hazardous materials is the provision of appropriate training to federal and state enforcement personnel who have responsibility for the enforcement of hazardous materials regulations.

The Secretary of Transportation established the Transportation Safety Institute (TSI) in Oklahoma City, Oklahoma, to improve transportation safety and security by designing and conducting training program responsive to modal and intermodal requirements. Radioactive materials transportation safety is one of the subject areas for which TSI provides training services. This training is available either as inresidence training at TSI or the training can be provided off-site at a state location.

During the past four years (FY 83-86), TSI provided in-depth radioactive materials inspection training to 44 state inspectors and 154 federal motor carrier safety inspectors. The training course, of 32 hours duration, addresses the classification of radioactive materials and packaging requirements in addition to the basic requirements pertaining to preparation of shipping papers, placarding, marking, and labeling. Also, TSI conducts training programs pertaining to transport of radiopharmaceuticals. Enhancement of training in this area is necessary because virtually most radioactive materials incidents in transportation involve these materials.

In FY 88, RSPA's budget request covers partial costs of training at the Transportation Safety Institute. The state share of funding for training can be substantially met through dollars received from the Motor Carrier Safety Assistance Program, a federal grant program carried out under the Surface Transportation Assistance Act, as amended.

For use in training programs, RSPA published a document entitled, "Radioactive Materials Transportation Information and Incident Guidance" to serve as an informational source providing background and guidance for first-on-the-scene responders at transportation accidents involving radioactive materials. It provides information to emergency responders who must recognize and assess accident conditions where radioactive materials contamination or radiation exposure may be present.

RESEARCH AND POLICY ANALYSIS

In FY 88, RSPA is requesting an increase in funding to carry out our responsibilities under the NWPA. The public and the Congress continue to express great interest in the transportation of radioactive materials. The debate surrounding the implementation of the NWPA is expected to intensify. We are involved with this process through our participation in numerous meetings and workshops, striving for resolution of the many issues related to the safe transport and disposal of our Nation's commercial spent nuclear fuel.

In this regard, it is expected that when the issues surrounding the DOE's proposed siting of a Monitored Retrievable Storage (MRS) facility in Tennessee are resolved, DOT will be called upon to substantively comment on the adequacy of various MRS transportation schemes. We are developing an in-house capability at our Transportation Systems center (TSC) to provide an independent assessment of the transportation aspects of the MRS proposal.

The NWPA directs that private industry be utilized to the fullest extent possible in performing transportation functions. Only if the Secretary of Transportation determines that private industry is inadequate to perform the transportation services necessary to carry out commercial nuclear waste disposal programs, may DOE use direct federal transportation services. While DOE appears to be fully committed to using the private sector to the maximum extent possible for its transportation services, DOT will be prepared to carry out its NWPA responsibilities by playing an active role in the numerous NWPA planning activities.

A research effort of note is being sponsored by the Federal Railroad Administration at TSC. This research deals with the probability and fire risk assessment of high-level radioactive materials in a rail accident environment.

DOT'S FEDERAL/STATE RELATIONSHIP

The HMTA expressly defines its relationship to state and local law. Section 112(a) states clearly that "any requirement, of a State or political subdivision thereof, which is inconsistent with any requirement set forth in (the HMTA) or regulations issued under (the HMTA), is preempted." The inclusion of this express preemption provision makes it clear that Congress did not intend the HMTA and its regulations to occupy the field so completely as to preclude any state or local action. The HMTA preempts only those state and local requirements that are "inconsistent."

To assist state and local governments, transportation companies, and other interested parties, RSPA has provided an administrative inconsistency ruling process for informal resolution of preemption issues arising under the HMTA.

Over half of the Department of Transportation's inconsistency rulings under the HMTA have involved state and local requirements concerning the transportation of radioactive materials. The gist of these rulings is that DOT regulations, in conjunction with NRC regulations incorporated by reference, have preempted almost the entire field of radioactive materials transportation. States can adopt routing requirements, adopt substantive requirements identical to the federal ones, and enforce those requirements through state inspections. In one inconsistency ruling, we sustained a state transit fee which was imposed to fund inspections.

RSPA has taken several steps to publicize its views on preemption under the HMTA. The inconsistency rulings and actions on appeal concerning them have been published in the Federal Register. In addition, RSPA has assembled detailed summaries of 40 inconsistency ruling applications and 18 inconsistency rulings, as well as an extensive index to the rulings and court decisions on preemption issues. A copy of these documents will be provided for the record.

DOT'S LEGISLATIVE PROPOSAL

On April 24, I mentioned in my prepared statement a number of areas of concern in the hazardous materials transportation area, including nuclear transportation. Two of those concerns are the routing of hazardous materials and the multiplicity of state and local laws pertaining to the hazardous materials transportation. These two issues are currently being addressed in our hazardous materials transportation reauthorization proposal, which is currently under review by concerned agencies. I expect the Department will propose legislation very soon.

In conclusion, I believe the enviable record of transporting radioactive materials is due in part to the regulatory program I and my colleagues have described. An equal measure of success is due to the responsible shippers and carriers who daily transport radioactive materials. Further, I believe our budget and program for the next year will allow us to make further improvements. We would very much like to have your support, and we welcome your advice.

Thank you, and I will be happy to answer your questions.

Senator EXON. I would suggest, if it is the feeling of the rest of the panel, that we will hear from the other witnesses before we go to questions. Is there any objection to that?

[No response.]

Senator EXON. The next witness that I have is Ms. Jill Lytle. Would you proceed, please.

Welcome.

Ms. LYTLE. Thank you.

Good afternoon. My name is Jill Lytle. As Director of the Office of Defense Waste and Transportation Management in the Department of Energy I would like to thank you for the opportunity to speak to you today.

With me are Larry Harmon, our Director of Transportation Management Division; and Lake Barrett, who is the Director of Transportation for the Office of Civilian Radioactive Waste Management.

The Department of Energy supports reauthorization of the Hazardous Materials Transportation Act. A uniform system of Federal regulations is in the best public interest. We believe that consistent State and local regulations can be accommodated within a uniform system.

For large nuclear materials shipments, Federal regulations place primary emphasis on package integrity to protect public health and safety, and to protect the environment. Package integrity is vital. Casks are used to transport large quantities of radioactive materials. These massive casks are designed to ensure that the contents will be contained even in an extraordinary transportation accident.

Repeatedly, rigorous design analysis and testing programs demonstrate that these casks will survive if subjected to fire, collision, puncture, and water immersion accidents.

The Department of Energy is enhancing the overall transportation system in several ways. Let me tell you about four of them.

First, the Department is improving the information exchange. Recently the Department of Energy adopted a policy to provide written, seven-day prenotification for unclassified shipments of spent fuel and high level waste. This policy brings us to a procedure identical to that of the Nuclear Regulatory Commission. This policy will provide States with a single method of receiving information on all such shipments.

Second, the Department is maintaining a nationwide emergency response capability. The Department's emergency preparedness capability is organized into regional centers that span the entire country. Within the regions, numerous radiological response teams can provide assistance within hours of any accident.

These teams provide on-scene technical assistance to local officials. To assist first responders, the Department provides health physicists, nuclear engineers, transportation and packaging specialists, and public information officials.

Third, the Department is providing training. Our program educates first responders, shippers, and carriers. The training includes a description of radioactive materials and their hazards. The training includes regulations and shipping requirements; and the training includes what to do at the scene of an accident. To date, several thousand people have been trained.

Fourth, the Department of Energy is developing technological improvements for the future. As an example, the Department is developing a computer tracking system using satellites. This system will have maps displaying actual shipment locations on a computer screen.

The tracking system will describe the bill of lading which includes information like contents, routing, and responsible party. The tracking system will describe an emergency response action plan. The States will be given access to this system.

In conclusion, the Department of Energy supports reauthorization of the Hazardous Materials Transportation Act. Our safety record is excellent. We will continue to ensure the safety transport of the Department's nuclear materials.

I thank you.

[The statement follows:]

STATEMENT OF JILL E. LYTLE, DIRECTOR, OFFICE OF DEFENSE WASTE AND TRANSPORTATION MANAGEMENT, DEPARTMENT OF ENERGY

Good afternoon, my name is Jill Lytle and I am pleased to be here today as the Director of the Department of Energy's (DOE) Office of Defense Waste and Transportation Management to present testimony on behalf of the DOE. My Office is responsible for developing and promulgating policies and procedures for transporting DOE's radioactive and other hazardous materials. We also direct the DOE-wide transportation and traffic management support programs for the movement of all material with emphasis on hazardous, radioactive, and explosive material (excluding nuclear weapons and their components). We represent the Department in activities involving transportation operations and traffic management with the carrier industry, carrier associations, Federal and State regulatory authorities, and other Government agencies.

The Department of Energy, in its current programs, uses radioactive materials in support of its national defense and research and development activities, and is a major shipper of radioactive materials. DOE shipments are transported through almost all 50 States in both Government and commercial vehicles via air, highway, rail, and water modes. Under DOE programs the radioactive materials are transported from uranium ore mines to processing facilities where the uranium is enriched and prepared as reactor fuel. Fresh fuel is shipped to nuclear reactors for research in energy technologies and to produce special nuclear materials for defense purposes. Byproducts are shipped to research laboratories, industrial plants, and medical institutions. Radioactive waste and spent fuel are transported to interim storage and disposal sites.

The Department of Energy supports the reauthorization of the Hazardous Materials Transportation Act (HMTA). We believe the public is best served by a uniform system of Federal regulations. State and local jurisdiction initiatives can also be accommodated in such regulations.

We believe the Subcommittee's approach of beginning its work by considering the Transportation of Hazardous Materials report issued by the Office of Technology Assessment (OTA) gets quickly to the issues. Many of the findings in the OTA report parallel conclusions reached in similar or related studies conducted by the DOE. We agree with the OTA's conclusions on the nuclear materials shipments, "OTA finds that technical evidence and cask performance in service indicate that NRC performance standards yield spent fuel shipping cask design specifications that provide for a very high level of public protection—much greater than that afforded by any other hazardous materials shipping activity." In over 40 years the Department has been shipping radioactive materials, there has not been a death or inury in accidents due to the radioactive nature of the cargo. Be assured we will work to continue this exemplary safety record. OTA concluded for radioactive materials in transport, ". . . the probability of an accident severe enough to cause extensive damage to public health and the environment caused by radiological release from a properly constructed cask is extremely remote."

We undertake very stringent precautions to minimize and eliminate risks in transporting these radioactive materials. DOE shipments are packaged and transported in accordance with Federal regulations contained in Title 49, Code of Federal Regulations. In addition, DOE has adopted the packaging standards of the Nuclear Regulatory Commission (NRC). These regulations and standards are implemented through the issuance of DOE safety and operational directives which apply to all DOE facilities. We will continue to maintain a high level of safety by strict compliance with transportation and packaging regulations.

All shipments of radioactive materials, whether they are private or Government-owned, are packaged and transported according to carefully developed Federal regulations that protect the public and transportation workers from radiation. These regulations cover a broad range of activities including packaging, driver training, shipment documentation, and more. The risks associated with transporting radioactive materials are primarily reduced by a combination of: (1) package design and (2) limitations on the contents of a package.

Radioactive material packaging is determined by the quantity limits, type, and form of the radioactive materials to be shipped. Most radioactive material shipments are packaged in either Type A containers or Type B containers. Generally, Type A radioactive material packages are used for shipments that present very little hazard due either to their small quantity or limited radioactive concentration. These containers are designed to contain and protect the contents during normal shipping activities. Examples of these items include radiopharmaceuticals for single treatments, watch dials, smoke detectors, and "exclusive-use" shipments of natural uranium or uranium metal.

Any radioactive material shipment that exceeds the limits of Type A package specifications must be shipped in a Type B package. Type B packages carry higher concentrations of radioactive materials. For this reason, a Type B package must be able to withstand both normal shipping conditions and hypothetical accidents. Type B containers may be used to transport such items as spent reactor fuel or high-level radioactive waste. Type B containers range in size from small packages weighing only a few pounds to spent fuel casks weighing more than 100 tons.

By design, the unique Type B radioactive materials container provides the primary level of protection in assuring public health and safety. Spent fuel casks used by the DOE are designed to ensure the contents are safely contained even in the event of an extraordinary transportation accident. Rigorous design analysis and testing programs have repeatedly demonstrated cask survival even when subjected to fire, collision, puncture, or water immersion.

Highway route-controlled quantities are higher activity Type B shipments. When transporting a highway route-controlled quantity shipment, the carrier must follow established and approved routes as spcified by Department of Transportation (DOT) regulations. Drivers of vehicles transporting highway route-controlled quantities receive special training and are required to carry a card certifying the date of that training. Training includes instruction in the hazardous materials transport regulations, the properties and hazards of radioactive materials, and emergency procedures. Drivers must receive updated training every 2 years.

DOE wishes to comment on a number of issues of concern to both DOE and the Subcommittee:

HIGHWAY ROUTING

The routing of hazardous material shipments is a controversial issue facing all hazardous materials shippers. It is particularly difficult for radioactive materials shipments because there is a public perception that these are more dangerous than other hazardous materials. Quite the opposite is true.

Under existing procedures, the designated motor carrier of spent fuel is permitted to select from routes identified as "preferred" by the DOT or the States. A preferred route is an interstate system highway, including interstate beltways around major cities; or an alternative route selected by a State routing agency in consultation with other affected States and local jurisdictions and in accordance with the DOT guidelines. The designation of alternative routes is assigned to the States because they have more knowledge of events that may affect local conditions than do Federal authorities. At the request of the State, the DOE will assist, as practicable, in the identification and evaluation of alternative routes in accordance with DOT guidelines. As a shipper, DOE assures its carriers comply with the DOT routing regulations including adherence to State designated alternative routes.

DOT's routing regulations for highway route-controlled quantities of radioactive materials have been upheld in the courts and we believe have served the national interest in the safe transportation of these materials. It balances the need for uniform Federal regulation with due consideration of State and local concerns.

PRENOTIFICATION

DOE has recently approved a new policy on notification of radioactive shipments similar to the requirements for NRC's licensees. DOE will now provide 7-day written prenotification for all unclassified shipments of spent fuel and high-level waste. This notification will be provided to each State along the shipping route. Procedures for this new policy are being finalized and will be implemented very soon.

This new policy is an example of DOE's response to States' needs for information about these shipments.

EMERGENCY RESPONSE AND PREPAREDNESS

The Department of Energy maintains an effective nationwide emergency preparedness capability. Since the 1950's, DOE and its predecessor agencies have provided emergency radiological advice and assistance to State and local Governments, private industry, other Federal agencies, and the general public. DOE has established and maintained this capability through actual emergency response operations as well as extensive training and exercise programs. DOE's emergency response capability includes people and equipment. These people include health physicists, nuclear engineers, transportation and packaging specialists, and public information officials. We have specialized materials handling and communications equipment, radiation detection instruments, robotics, and decontamination equipment. This capability can be mobilized within 2 hours of notification and at the scene in the continental United States within hours. DOE has established regional coordinating offices for radiological assistance with corresponding geographical areas of responsibility. Once a DOE emergency response team is requested and on the scene, a determination on package integrity can usually be made very quickly. After package integrity has been confirmed, an accident cleanup may begin in normal fashion. We should note that a Type B package has never released its contents in an accident. If any radiological problems are encountered, DOE can apply its vast technological resources to rectify the situation.

DOE is very supportive and has taken many initiatives in emergency reponse training. DOE conducts emergency response workshops around the country on a regularly scheduled basis. Training includes first responder actions on both general hazardous and radioactive materials shipments. Topics include regulations, shipping requirements, description of radioactive materials and their hazards, what to do at the accident scene, radiation detection equipment, and how to mobilize Federal assets to assist local first responders.

DOE is expanding the number and geographical distribution of these training workshops. So far, over 5,000 people in 39 States have had this training. We are also developing ways of reaching an even broader audience with new training materials such as video tapes, printed material, and "Train-the-Trainer" courses. Again, the emphasis is to control the accident scene and mobilize State and Federal assets if needed.

DOE is also taking strong initiatives in assisting State and local emergency response capabilities. Recent efforts include current development of a real-time satellite tracking system which will include maps displaying shipment locations, bill of lading information, and emergency response actions.

COORDINATION AMONG FEDERAL AGENCIES

The Department of Energy is deeply involved in coordinating radioactive materials transportation activities within the Federal system. DOE shipments are made in accordance with all applicable Federal regulations. Our Type B packagings are designed to the strict standards of the NRC. The implementation of these regulations demand a high level of cooperation and coordination among the agencies. Regular meetings at a management level are held to discuss issues and problems. Staff interactions are routine. We have also strongly supported DOT regional workshops on radioactive materials transportation issues. Such workshops provide a beneficial exchange of information between regulators, shippers, and State and local representatives.

PUBLIC INFORMATION

An important DOE program is the development and dissemination of accurate information to support:

Training for shipment and response to emergencies for radioactive and other hazardous materials;

Congressional, State, tribal, and local Government liaison to enable officials to make informed decisions on regulations and legislation affecting the flow of hazardous materials in commerce; and,

Open exchange between the public and DOE to describe the Federal role in energy programs and related transportation activities.

The need for these activities has been recognized by the OTA report. The report states, "OTA has identified four paramount policy issue areas for congressional consideration . . . [one of which is] increased availability of information about the transportation of hazardous materials, including spent nuclear fuel."

The public has a genuine concern about hazardous materials shipments, which can be addressed through understandable information. DOE provides a wide variety of information including the general nature of the materials being shipped, the necessity of the shipments, any dangers involved and the proven methods used to mitigate those dangers, the precautions taken, the regulations affecting radioactive and other hazardous materials transportation, and the historical safety record.

This information is provided through a variety of media including booklets explaining the basis for packaging and transporting radioactive materials. Films are also available which describe a highway shipment of spent fuel and the procedures involved in transporting radioactive materials. Fact sheets are also available on a variety of specific topics.

We feel we are making significant progress toward educating the public on the procedures developed for packaging and transporting radioactive materials. We will continue to place the highest priority on thoughtfully and effectively responding to the public concern about all hazardous materials shipments.

CONCLUSION

The Department of Energy supports a national uniform Federal system of regulating hazardous materials transportation as defined in the Hazardous Materials Transportation Act. These regulations are the best way to assure public health and safety and protection of the environment. While our past safety record is good, we will continue to emphasize doing everything necessary to assure the continued safe transport of the materials. Thank you for your time and the opportunity to provide you these comments.

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR EXON AND THE ANSWERS

Question 1. Some have proposed the use of dedicated trains to carry shipments of extremely radioactive materials. What are your views on this?

Answer 1. The definition of "dedicated trains" needs to be clarified. If the term applies to trains with a single (or dedicated) cargo, then the DOE is investigating their use under some circumstances. For example, if a monitored-retrievable storage (MRS) facility is approved as an element of the disposal system to be developed under provisions of the Nuclear Waste Policy Act of 1982, then the DOE will probably use single-cargo or "dedicated trains" to ship waste from an MRS to a repository. Such usage would be based on an increase in efficiency rather than safety.

If, however, the term is used synonymously with special trains (trains requiring procedures in excess of existing Nuclear Regulatory Commission/Department of Transportation (NRC/DOT) requirements), the DOE does not support their use. Package integrity, rather than transport service provides the primary protection in ensuring public health and safety. The massive casks used to ship spent nuclear fuel are designed to assure the contents will be contained, even in an extraordinary transportation accident. Rigorous design, analysis, and testing programs demonstrate these casks do indeed protect the public health and safety.

The use of mandatory dedicated (special) trains for the safe transportation of highly radioactive materials has been a matter of litigation between the shippers of highly radioactive materials and the railroads for many years. The ICC has ruled that railroads do not have the authority to unilaterally require more stringent standards than those of the DOT/NRC. This ruling has been upheld by the courts. In a series of decisions by the ICC and courts between 1977 and 1985, it was ruled the railroads must end the unreasonable practice of refusing to carry radioactive materials except in special trains.

The testimony in the ICC and court cases, as well as numerous studies including NUREG/CR-4829 (the NRC's "Modal Study"), do not support railroads' contention that special train service is warranted.

Question 2. What role do you feel States and localities should play in the transportation of radioactive materials? How do you feel the Federal government might improve in its assistance to States and localities, particularly in terms of information and resources?

Answer 2. First and foremost, the DOE supports a uniform Federal system of regulating hazardous materials transportation as defined in the Hazardous Materials Transportation Act (HMTA). These regulations are the best way to assure public health and safety. State and local regulations must be consistent with Federal law if an orderly system of commerce is to be maintained. State responsibilities in dealing with transportation of any hazardous materials could include:

Appropriate inspection, enforcement, licensing, and permitting consistent with Federal laws.

Primary emergency response.

Designating preferred alternative highway routes as provided for in Federal regulations.

There are several important ways the Federal Government can assist States and local governments regarding information concerning the transportation of radioactive materials. Development and dissemination of accurate, timely, and understandable information is essential to public acceptance. Ongoing programs and new initiatives include:

Factsheets, brochures, films, and other information products explain procedures followed and the extreme care taken in packaging and shipping materials.

Information on Federal emergency response capabilities and how to mobilze them.

Liaison with consortium and consensus groups to assist in informed decisionmaking.

Developing a satellite-based tracking system to provide real-time information on shipments including maps for shipment location, bill of lading data, and emergency response information.

Information exchange and liaison with States to assist in highway routing decisions—includes radiological risk analysis and routing computer models accessible by telephone link.

Reference: *Toward a Federal/State/Local Partnership in Hazardous Materials Transportation Safety*, U.S. Department of Transportation, 82 09 00, TICC, DOT 82

QUESTIONS OF SENATOR ADAMS AND THE ANSWERS

Question 1. DOE is authorized by DOT, under 49 CFR 173.7(b), to use Type B packages that are equivalent to NRC Type B standards. Please describe the methodology, testing methods, and provide the specific DOE order, rule, or specification used by DOE in fulfilling this requirement.

Answer: 1. The Under Secretary of Energy established, in January 1986, a centralized certification office (copy of letters are attached) that would operate independent of any programmatic activities. The program established under this new office is fundamentally identical to the NRC certification program. The staff selected for the office has been trained in a program consisting of 80 hours of classroom work plus 2 weeks or more of on-the-job training at the NRC. *The DOE certification staff employs the same standards and equivalent methodology of certification as the NRC.*

DOE Order 5480.3 (copy attached) [1] sets the safety standards for radioactive material packaging and requires adherence to the standards specified by 10 CFR 71. The requirements for the preparation of a Safety Analysis Report for Packaging (SARP) are contained in DOE Order 1540.2 (copy attached) and are consistent with those required in 10 CFR 71. NRC Regulatory Guides, NUREG publications, and NRC recognized computer codes are used in the certification process.

Implementation of the above is accomplished through the DOE "Packaging Review Guide" (copy attached), developed for the DOE certification staff. The Guide defines the technical standards and methodology for the review of a SARP for certification. This Guide has been reviewed by the NRC and is considered as an equivalent standard and methodology for the review process.

Close coordination is maintained between the DOE certification staff and the NRC staff in research and development activities on computer codes and other problems common in the evaluation process, such as acceptance criteria.

Question 2. In hearing testimony, a witness provided a list of shipping casks that DOE submitted to the NCR for certification. Of 11 DOE casks submitted to NRC for certification, DOE has apparently withdrawn 9 of those and the other two were still pending. Please provide for the record a complete list of all DOE Type B shipping casks, a list of all requests to NRC for certification of such casks, identify the status of such requests and identify which requests, if any, for NRC certification have been granted.

Please identify which, if any of the casks, have been physically tested to confirm compliance with NRC standards.

Please provide an inventory of the number of shipments made for any casks, for which NRC certification was requested but withdrawn, after the date DOE withdrew such request for certification.

Please provide an explanation as to why DOE withdrew individual cask certification requests.

Answer 2. In response to the questions concerning Safety Analysis Reports for Packaging (SARPs) sent to NRC, the following comments are provided for background, clarification, and general information regarding the process by which SARPs are approved or withdrawn.

In the past, not all of the SARPs provided to NRC were for certification. In the late seventies it was the practice of the DOE to send SARPs to the NRC for technical assessment and/or information. In the case of SARPs submitted for technical assessment only, it was concluded that such requests produced an unnecessary burden and cost of the NRC. In 1982 the policy of requesting only technical assessment was discontinued.

In regard to questions from previous technical assessments or current certification reviews, it should be noted that questions are routinely generated during the SARP review/evaluation process on *all* SARPs submitted to NRC (or DOE). These questions cover a wide spectrum of topics. Some of the questions simply request more data/information or clarification of the analysis/tests. Other questions may request additional tests or new analysis, or material characterization, or ask for design modification. Some of the technical questions may indicate a substantial redesign/reanalysis (often to meet newer regulations) which often is judged uneconomical. Such questions, when evaluated relative to the extent of redesign/reanalyze costs, program needs, available substitutes, etc., have resulted in the DOE withdrawing some of its applications.

The withdrawal of a request for a SARP review may be necessary for a wide variety of reasons. For example, DOE may no longer have a need to send the cask to NRC licensees, there may no longer be a need for the cask, the design may be old and uneconomical to redesign/reanalyze, the additional time and cost to respond positively to the questions may be uneconomical, and an economical substitute for the cask may be found.

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[1] All the attachments referred to were not reproducible and are in the Committee files.

In summary, there have been no DOE applications for packaging certification rejected by the NRC. Most of the applications for review that were withdrawn from NRC were older casks for shich it was uneconomical or impractical to upgrade the SARP/cask to the newer regulations. Questions from the standard review process are used to make the final evaluations on these type containers. (Note that the same process if used by NRC licensees.)

The information and lists requested in your specific questions have been summarized in the attached tables. Table 1 covers all active DOE Type B containers, including those that have been submitted to NRC and have received NRC certificates. Table 2 covers DOE containers that were submitted to NRC for review or certification, then later withdrawn and removed from service.

As noted in the attached tables, many NRC certificates have been issued on DOE certified casks.

TABLE 1.—DOE TYPE B SHIPPING PACKAGES

Cask	Name	NRC review requested	Status of request	NRC cert. issued	Evaluated by[1] test analysis		Remarks
					DOT	NRC	
5320-3	Pu Oxide	No	N.A.	N.A.	X		DOE Certified
5332	2030-1	No	N.A.	N.A.	X		DOE Certified
5461	TRU Curium	Yes	Completed	Yes		X	NRC and DOE Certified
5507	HFIR-IRR	Yes	In progress	No		X	DOE Certified
5552	Gas CYL	Yes	Completed	Yes	X	X	NRC and DOE Certified
5563	Model 660 C&B.	Yes	Completed	Yes		X	NRC and DOE Certified
5580	S5W PWR Unit	Yes	Completed	Yes		X	NRC and DOE Certified
5595	L&M	Yes	Completed	Yes		X	NRC and DOE Certified
5597	WSHLD Cask	Yes	Completed	Yes		X	NRC and DOE Certified
5599	AWG	No	N.A.	N.A.	X		DOE Certified
5607	T-2	Yes	Completed	Yes		X	NRC and DOE Certified
5740	TRU CF	Yes	Completed	Yes		X	NRC and DOE Certified
5757	S5WRefuel	Yes	Completed	Yes		X	NRC and DOE Certified
5758	S5WCore BRL	Yes	Completed	Yes		X	NRC and DOE Certified
5787	D-38	Yes	Completed	Yes		X	DOE Certified
5790	AL-M3	No	N.A.	N.A.	X		DOE Certified
5791	AL-M6	No	N.A.	N.A.	X		DOE Certified
5795	ORNL Formula	Yes	Completed	Yes	X		NRC Certified
5797	HFIR-UNIRR	Yes	Completed	Yes		X	NRC and DOE Certified
5814	NRBK-41, 42, 43.	Yes	Completed	Yes		X	NRC and DOE Certified
5828	Treat	Yes	Completed	Yes		X	NRC and DOE Certified
5874	WAPD-40	Yes	Completed	Yes		X	NRC and DOE Certified
5875	WAPD-39 NRBK-44.	Yes	Completed	Yes		X	NRC and DOE Certified
5914	57.5×108 CORE.	Yes	Completed	Yes		X	NRC and DOE Certified
5894	Model 2.7, New Fuel.	Yes	Completed	Yes		X	NRC and DOE Certified
6002B	S3W/54	Yes	Completed	Yes		X	NRC and DOE Certified
6003	M-130	Yes	Completed	Yes	X	X	NRC and DOE Certified
6049	426A	Yes	Completed	Yes		X	NRC and DOE Certified
6115	R1010 0032	Yes	Completed	Yes		X	NRC and DOE Certified
6134	11.9 New Fuel	Yes	Completed	Yes		X	NRC and DOE Certified
6142	BETTIS	Yes	Completed	Yes		X	NRC and DOE Certified
6188	25.0 Spare Mod.	Yes	Completed	Yes		X	NRC and DOE Certified
6227-A	DT-2 426B	Yes	Completed	Yes	X		NRC and DOE Certified
6227-B	DT-5 WMEN	Yes	Completed	Yes	X		NRC and DOE Certified
6227-C	DT-7	Yes	Completed	Yes	X		DOE Certified
6273-12BC	12A or 12B	No	No	N.A.	X		DOE Certified
6286	CMB-11PU	No	N.A.	N.A.	X		DOE Certified
6385	S1W-PUSC	Yes	Completed	Yes		X	NRC and DOE Certified
6386	235 Rool	Yes	Completed	Yes		X	NRC and DOE Certified
6387	Model 60	Yes	Completed	Yes	X		DOE and NRC Certified

TABLE 1.—DOE TYPE B SHIPPING PACKAGES—Continued

Cask	Name	NRC review requested	Status of request	NRC cert. issued	Evaluated by [1] test analysis		Remarks
					DOT	NRC	
6400	Super Tiger	Yes	Completed	Yes		X	NRC Certified
6406	Gen. Cert.	Yes	Completed	Yes		X	NRC and DOE Certified
6441	D26 Cert	Yes	Completed	Yes		X	NRC and DOE Certified
6553	Paducan Tiger	Yes	Completed	Yes	X		NRC and DOE Certified
6553-5	10 Ton Paducah Tiger.	Yes	Completed	Yes	X		NRC and DOE Certified
6639	MHIA	Yes	In Progress	Pending		X	DOE Cert. Cancelled Cask Not in Service
6642	4-5Ton CE	Yes	Completed	Yes	X		NRC and DOE Certified
6643	Modified 6M	No	N.A.	N.A.	X		DOE Certified
6677	LP-12	Yes	Completed	Yes		X	NRC Certified
6678	LP-50	Yes	Completed	Yes			NRC Certified
6697	GE-8500	Yes	Completed	Yes		X	NRC Certified
9119	5910 Birdcage	Yes	Completed	Yes	X	X	DOE and NRC Certified
9132	T-3	Yes	Completed	Yes		X	NRC Certified
9134	ETR	Yes	Completed	Yes	X		NRC Certified
9150	PAT-2	Yes	Completed	Yes		X	NRC Certified
9152	CNS-1-13C11	Yes	Completed	Yes		X	NRC Certified
9186	S-6213	Yes	Completed	Yes		X	NRC and DOE Certified
9200	125B	Yes	Completed	Yes		X	NRC Certified
9504	6M	No	N.A.	N.A.	X		DOE Certified
9505	HPG	No	N.A.	N.A.		X	DOE Certified
9507	AL-M1	No	N.A.	N.A.	X		DOE Certified
9508	6M	No	N.A.	N.A.	X		DOE Certified
9509	PAT-1	Yes	Completed	Yes	X		DOE Certified (see 0361 for NRC)
9510	GPHS	Yes	Completed	Yes	X		DOE and NRC Certified
9781	M-160	Yes	Completed	Yes		X	NRC and DOE Certified
9782	DOT-Spec	Yes	Completed	Yes		X	NRC and DOE Certified
9783	S5W1TR	Yes	Completed	Yes		X	NRC and DOE Certified
9784	LWBR New Fuel.	Yes	Completed	Yes		X	NRC and DOE Certified
9785	S2W/S2Wa	Yes	Withdrawn 9/12/86.	[2] No		X	DOE Certified
9786	S3G Core Basket Disposal.	Yes	Completed	Yes		X	NRC and DOE Certified
9787	A1W-3 Pusc	Yes	Completed	Yes		X	NRC and DOE Certified
9788	S5WReactor Cmpt.	Yes	Completed	Yes		X	NRC and DOE Certified
9791	PWR-2 LWR-Core-WST-BRL.	Yes	Completed	Yes		X	NRC and DOE Certified
9851	L1-H MOD 3	Yes	Completed	Yes	X		NRC and DOE Certified
9852	DT-14	Yes	Completed	Yes	X		NRC and DOE Certified
9853	ORNL, BNL NBS.	Yes	Completed	Yes	X		NRC and DOE Certified
9855	DOT-6M	No	N.A.	N.A.	X		DOECertified
9856	20 WC-5	No	N.A.	N.A.	X		DOE Certified
9859	6M-Tritium Trap.	No	N.A.	N.A.	X		DOE Certified
9860	DT-14A	Yes	Completed	Yes	X		NRC and DOE Certified
9901	Model 120	Yes	Completed	Yes	X		NRC Certified
9903	17H-FOR UO [3]	No	N.A.	N.A.	X		DOE Certified
9932	UC-609	Yes	Completed	Yes	X		NRC and DOE Certified
9964	LP-12-1	Yes	Completed	Yes	X		NRC Certified
9965	SR Chalfant 30 Single.	No	N.A.	N.A.	X		DOE Certified

TABLE 1.—DOE TYPE B SHIPPING PACKAGES—Continued

Cask	Name	NRC review requested	Status of request	NRC cert. issued	Evaluated by [1] test analysis		Remarks
					DOT	NRC	
9966	SR Chalfant 30 Double.	No	N.A.	N.A.	X		DOE Certified
9967	SR Chalfant 55 Double.	No	N.A.	N.A.	X		DOE Certified
9968	SR Chalfant 35 Double.	No	N.A.	N.A.	X		DOE Certified

N.A.—Not Applicable.

[1] DOT/NRC regulations allow evaluation of a package for certification by either physical testing or analysis.

[2] Cask 9785 is to be retired following final use in 7/87. Only one shipment was made after withdrawal. There are no unresolved safety issues on this cask.

TABLE 2.—DOE TYPE B PACKAGES REMOVED FROM SERVICE

Cask	Name	NRC review requested	Status of request	NRC [1] cert. issued	Evaluated by [2] test analysis		Why request withdrawn	Shipments after withdrawal	Remarks
					DOT	NRC			
4960	LLD-1	Yes	Withdrawn 5/31/83	No	X		Package was replaced with 9965	22	Based upon NRC and DOE reviews, this cask was phased out of service by 9/84 and replaced by 9965.
5097	Model 44	Yes	Withdrawn 5/31/83	No	X		No use for cask & cost to recertify	0	
5469	Hallam	Yes	Withdrawn 5/31/83	No		X	Overweight Pkg	4	
5608	HFBR	Yes	Withdrawn 1/5/87	No		X	No intent to ship to NRC licensees	0	
5645	Rover	Yes	Withdrawn 1/22/85	No		X	No use for cask & cost to recertify	0	
5753	Loop	Yes	Withdrawn 1/5/87	No		X	Old cask with inadequate QA	0	
5885	FRFE	Yes	Withdrawn 1/22/85	No		X	No use for cask & Cost to recertify	0	
5907	In Pile Capsule OR	Yes	Withdrawn 1/22/85	No		X	Old cask with inadequate QA	0	
6088	Garden Carrier No. 2	Yes	Withdrawn 1/5/87	No		X	Old cask with inadequate QA	0	
6104	ANL-390-SPM	Yes	Withdrawn 3/31/85	No		X	No intent to ship to NRC licensees	0	
6345	ANL-403-SPM	Yes	Withdrawn 3/31/85	No		X	No intent to ship to NRC licensees	79	
6421	CMB-14	Yes	Withdrawn 1/22/85	No		X	No use for cask & cost to recertify	0	
6495	Paducah	Yes	Withdrawn 1/22/85	No		X	Expensive to update to meet current regs.	0	
9931	C47 Overpack	Yes	Withdrawn 1/22/85	No	X		Lack of Programmatic Use	0	

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[1] These casks were previously certified and used by the AEC before it was Split into the NRC and ERDA (later DOE). After the AEC split, a re-review of these older certified packages was performed relative to newer regulations. Results of the NRC/DOE reviews were used to evaluate future uses of the casks.

[2] DOT/NRC allows evaluation of a package for certification by *either* physical testing or analysis.

Question 3. Please provide an explanation as to why DOE should not, as a matter of public health and safety policy, use NRC certified casks.

Answer 3. The DOE does use NRC certified casks. However, the DOE requires a wide variety of packages for the broad range of radioactive materials it is required to move. Many of these packages must be developed by the DOE to meet specialized needs and are not available within the NRC certified packagings.

By a mutual agreement with the NRC, the DOE ships under an NRC certificate when shipments are made to and from an NRC licensee. Also, the DOE will often request "user status" on an NRC certified cask. This is done when a particular cask is needed only periodically by the DOE and an equivalent cask is not available in the DOE inventory. Such casks as these are generally leased from an NRC licensee, such as the Model 700 cask, NL1½ and the NAC 1 casks. The DOE has also purchased NRC certified containers from commercial suppliers when the design readily meets a need within the DOE.

Under the DOE's certification program the standards for certification are the same as those of the NRC with regard to public health and safety. The continuation of the DOE certification is mutually advantageous to both agencies and upon the incorporation of a reciprocal agreement on cask use, more flexibility and more economies may be accrued between the agencies. Both certification staffs are dedicated to the assurance of public health and safety.

Question 4. DOE has provided Sen. Adams with a partial list of cask tests. The list also includes test of TRUPACT which state that the test demonstrated structural and thermal performance.

The TRUPACT cask test was a success because it met the NRC 30-minute fire test. Unfortunately, the cask failed five minutes later.

Is it true the DOE's position that the TRUPACT is a safe, certified cask?

Answer 4. DOE is currently developing, testing, and evaluating various designs under the TRUPACT program. TRUPACT-I is one phase of this program in which several prototypes have been built and tested. The initial fire test for TRUPACT-I showed that a change in the design was needed. The necessary design modifications were made. There are other types of packaging designs for the final TRUPACT under consideration. There are no TRUPACT designs that have been certified or used.

Question 5. Why has DOE requested DOT to grant an exemption for the TRUPACT from the NRC standards?

Answer 5. DOE petitioned DOT to rule on certain criteria and regulations governing the transport of materials contaminated with plutonium. The DOT review would have decided the applicability of these regulations to a specific waste form called Contact-Handled Transuranic (CH-TRU) wastes. A review of the history of the DOT regulations shows they were developed specifically for the transport of spent fuel, plutonium dioxide powders, and high-level waste. They *were not* intended for less hazardous material like CH-TRU waste.

Any change to the regulations was anticipated to occur in the form of a DOT public rulemaking that would make the design requirements for packaging of certain radioactive contaminated materials commensurate with the hazard of the material being shipped. If such a rulemaking were adopted, it could allow the development of a safe and efficient transportation packaging tailored for the transport of TRU wastes. Such a package would still meet the NRC performance requirements. Hence, the request for rulemaking does not constitute a request of an exemption for the TRUPACT from the NRC standards. Further, approval of the rulemaking request would translate into fewer shipments across State highways and, thus, decrease the statistically expected vehicular accident risks to the public, all of which by the nature of the certification and transportation process would not create any increase in the radiological exposure.

Question 6. Have any of the DOE's current casks been destructively tested? If so, which ones? And does DOE plan to destructively test future casks?

Answer 6. The current packaging certification regulations in 49 CFR 173 Subpart I and 10 CFR 71 (regulations used by both DOE and the NRC) specify certain test criteria that must be met to meet performance standards. Casks are evaluated against these test criteria through physical testing or analysis. Testing to the point of destruction is not required by regulations. DOE has not performed such test since they are not required by regulations. DOE considers the current regulations proper in providing the standards for tests required to assess the safety of the particular cask. Hence, DOE has no plans to conduct destructive tests in the future.

Notwithstanding, in special cases, DOE has tested casks *beyond* the NRC/DOT requirements to show that the existing NRC/DOT/DOE certification test criteria is sufficient to properly assess that containers can pass safely through actual severe accident conditions. (A recent NRC modal study concluded that the test criteria in the regulations is usually much more severe than actual accident conditions and is sufficient as outlined in present regulations.) For example, DOE has attempted to destructively damage a cask by the use of explosives and dropping the cask from a high altitude—as was the case for the PAT-1 which is certified for the air carriage of plutonium. We have also hit a package with a train, as did the British, and crashed a truck at high speed into a solid unyielding wall. The casks have survived these conditions with little damage. Although this type of test is optically impressive, it is unfortunately impractical due to extreme high cost, complexity and extreme difficulty in having homogenous and repeatable uniform test conditions from test to test. Results, relative to actual forces and stresses developed, are impossible to evaluate adequately, compared to the controlled physical tests and analysis outlined in the regulations.

The DOE certification evaluation process, which embodies the same regulations, codes and approaches as NRC, uses analytical and comparative analyses in determining the compliance of a cask. This process utilizes codes that contain a sufficient margin of safety that assures public safety well beyond accident requirements.

Although there are no plans at this time for destructively testing future casks, the Department does plan to test scale models and full-scale casks, as appropriate, to confirm the analyses conducted. Before certification is granted, comparative analyses will continue to be conducted by the certification staffs employing those codes that assure that adequate margins of safety are already designed into the casks.

Question 7. In your written statement, it states "As a shipper, DOE assures its carriers comply with DOT routing regulations including adherence to State-designated alternative routes." How, specifically, does DOE assue that its carriers comply? Does it have audit teams and inspectors who assure compliance?

Answer 7. DOE uses common carriers to transport radioactive mateials in accordance with DOT routing regulations. Both DOE and its carriers are well versed in compliance with these regulations. We conduct training courses which are attended by carriers and DOE contractor shippers to review in detail all DOT radioactive materials transport regulations. Prior to making a Highway Route-Controlled Quantity shipment, carriers submit their route plans to DOE. After the shipment is completed, DOE, as shipper, files a copy of the actual route the carrier followed in accordance with DOT post-shipment reporting regulations.

If a determination is made that a carrier has not followed applicable Federal routing requirements DOE may disqualify the carrier in accordance with its regulations (41 CFR 109.40).

Question 8. DOE's testimony supports retaining the HMTA system essentially as it is today. If this is so, why has DOE refused to cooperate with the Illinois program which DOT has found to be consistent with HMTA?

Answer 8. We believe certain aspects of the Illinois program are inconsistent with the HMTA system as it is today. We have appealed the DOT ruling on this matter and are awaiting a decision on that appeal.

Question 9. In your written statement, DOE implies that DOE is responsible for emergency response, but that it can take two hours just to mobilize DOE response teams and additional hours to get them on site. What steps does DOE take to assure that state and local governments along your transportation routes have appropriate emergency response training, equipment, and communication links to DOE?

Answer 9. In the National Contingency Plan, 44 CFR 352.24, the DOE is designated the lead Federal agency for providing technical assistance for incidents involving radioactive materials.

DOE is responsible for the Federal emergency response for radiological monitoring and assessment as stated in the Federal Radiological Emergency Response Plan. This plan provides the basis for coordination of Federal assistance for coping with radiological emergencies.

The first responders to an incident which may involve radioactive materials will be local police or fire personnel. DOE emergency response experts are available immediately and continually by phone to provide radiological advice and technical assistance to the first responders. DOE will also provide on-scene assistance if requested by a State and deploy experts and equipment to assist local officials in mitigating the effects of a radioactive material transportation incident.

Under existing plans, the United States is divided into eight coordinating regions, each with a coordinating office. When notified of an emergency, the Regional Coordinating Office can dispatch a Radioactive Assistance Program (RAP) team usually within 1 to 2 hours. This DOE capability is in addition to emergency response assets provided by other Federal agencies and commercial response organizations.

Question 10. Please describe DOE's emergency response capability, the range of response times, including actual and test responses if available, and the budget in support of this capability.

Answer 10. The Department of Energy has unique capabilities for responding to a radiological emergency. Starting with its large base of technical and scientific personnel located at laboratories and facilities throughout the country, responders can be at the scene of an accident in a matter of hours, depending on the distance to the nearest Department of Energy facility. These first responders will be experienced health physicists whose day-to-day job is in their professional speciality. They will have with them hand-held, sensitive instruments that are calibrated and in good working order, and they are trained in monitoring for radiation releases as well as in giving advice pertaining to personnal health and safety. The Department also has other personnel and equipment resources immediately available to augment these first responders, should the situation require it.

DOE participates in numerous tests and exercises for powerplant accidents, incidents at DOE facilities, nuclear weapons accidents, and transportation accidents. The Department has also been involved in numerous real incidents involving radioactive material transportation. DOE has found lost sources, retrieved damaged packages, and surveyed suspected leaks. Most response teams can be mobilized within 1 hour. Most often, however, information obtained during the initial phone communication is sufficient to determine whether there is a radiological emergency and confirmation measurements are needed. Again, radioactive material experts and equipment are available on-scene upon request.

Most equipment and people are utilized for day-to-day operations or emergency preparedness at DOE facilities and, therefore, it is impossible to identify a specific dollar amount solely in support of "emergency response." However, literally millions of dollars are spent each year to help ensure that DOE and its contractors are adequately prepared for emergencies in their own facilities. This capability is available to assist in transportation incidents.

DOE has taken numerous actions to provide communication links at both the Federal and State levels. Additionally, we are conducting Emergency Response Orientation Workshops for State and local first responders. This workshop specifically trains in the area of responding to an incident involving the transportation of radioactive material. There are also numerous public information materials available upon request and joint emergency response exercises conducted by personnel from DOE, DOE contractors, and State and local agencies.

Question 11. DOE is authorized under 49 CFR 173.7(b) to be exempt from DOT hazardous materials requirements. Please provide an inventory of the types and number of shipments, by DOE, under this exemption for the last ten years.

Answer 11. The objective of this regulation is to protect security information for those shipments which are radioactive *and* classified. The provisions provide no relief from the safety aspects of the DOT regulations. In fact, equivalent safety must be maintained. However, the provisions do grant relief from vehicle placarding or the identification of classified information on the package or shipping papers.

It is estimated that DOE makes approximately 35 shipments annually via commercial carrier under 49 CFR 173.7(b).

DOE's noncommercial radioactive shipments made in federally-owned equipment operated by Federal agents are exempt from HMTA. However, as a matter of DOE policy, such shipments are required to comply with DOT safety regulations except for external placarding of the vehicle. The number and types of such shipments are classified, but could be provided in a classified briefing.

Question 12. Please describe the alternative safety requirements and conditions imposed by DOE in carrying out HMTA-exempt shipments.

Answer 12. As provided in our answer to question 8, the provisons of 49 CFR 173.7(b) grant no relief from the safety requirements of HMTA. Specific details of HMTA-exempt shipments and shipments conducted under 49 CFR 173.7(b) are classified, but a classified briefing can be arranged.

Question 13. Please describe the procedures used by DOE for determining if this exemption will be used and the process for confirming its applicability with DOT.

Answer 13. The objective of this regulation is to protect security information for those escorted shipments which are radioactive *and* classified. The provisions provide no relief from the safety aspects of the DOT regulations. In fact, equivalent safety must be maintained. However, the provisions do grant relief from vehicle placarding or the identification of classified materials information on the package or shipping papers. The need for, and use of, the provisions of 49 CFR 173.7(b) is determined by the DOE operations offices under Headquarters guidance. DOT does not review the applicability of 49 CFR 173.7(b) to such shipments.

Question 14. What risk assessment and/or environmental impact assessment has been done for the WIPP shipments and what are DOE's procedures and methodology for conducting risk assessment and routing designation for shipments in general.

Answer 14. The WIPP shipments will confrom to the DOT routing regulations (49 CFR 177.825). The regulation emphasizes minimizing transit time and relying on interstate highways or State-designated alternate routes to the interstate system. Access to the interstate system generally is by the shortest noninterstate routes.

The WIPP Environmental Impact Statement (EIS) presents an analysis for the shipment for defense Transuranic (TRU) waste from Idaho National Engineering Laboratory and Rocky Flats Plant to WIPP. Prior to shipping waste to WIPP, the other defense TRU generation and storage sites will have completed the required NEPA documentation. Los Alamos National Laboratory, Oak Ridge National Laboratory, and Savannah River Plant have prepared environmental assessments which are undergoing review by DOE Headquarters.

The Department has also issued the *Transportation Assessment and Guidance Report* (TAGR) to support the sites in their preparation of NEPA documentation. The TAGR presents both a radiological and nonradiological risk analysis for shipping defense TRU waste to WIPP for the sites not addressed in the WIPP EIS. RADTRAN, a transportation risk model developed by Sandia National Laboratories, was used to predict the transportation risk. The Department has prepared a preliminary transportation analysis and is in the process of preparing a final transportation analysis for WIPP shipments and associated routes within the State of New Mexico.

Question 15. Describe and compare DOE's procedures and methods for routing, NEPA, risk assessment and regulatory compliance for HMTA-exempt national security shipments under 49 CFR 173.7(b), nonexpempt, and commerical nuclear waste shipments under the NWPA.

Answer 15. It is DOE policy that all of its hazardous materials shipments shall comply with applicable DOT transport and packaging regulations including routing requirements. This includes shipments made currently for DOE programs as well as shipments which will be made in the future under the NWPA. When DOE makes a shipment of radioactive materials in federally-owned vehicles with Federal agents, DOT transport safety requirements are followed with the exception of external placarding of the vehicle. Although such shipments are not subject to DOT regulations, the DOE requires equivalency with these regulations as a matter of policy. Risks have been assessed in NRC's NUREG-0170 and the recent NRC Modal Study, NUREG/CR-4829. Specific environmental impact statements or environmental assessments have been made on radioactive shipments activities in compliance with NEPA as required.

QUESTIONS OF SENATOR DANFORTH AND THE ANSWERS

Question 1. Could you describe your agency's responsibilities with regard to the TMI shipments and walk us through the processes your agency has been involved in to date? Please include a description of your interaction with the other two agencies.

Answer 1. The DOE is cooperating with the NRC for research, development, and cleanup of the TMI-2 reactor. Responsibilities of the two parties are delineated in a Memorandum of Understanding formalized by the two agencies on March 15, 1982. DOE's responsibilities include taking possession of the fuel and other wastes for research, development, testing, storage, and ultimate disposition. DOE's responsibilities specific to transportation of the fuel and core materials have included procuring a safe transport package, establishing safe shipping arrangements in accordance with applicable laws and regulations, route selection for transportation with assistance from participating railroads, and conducting safe receipt and storage operations.

DOE coordinates TMI transportation activities with NRC and DOT. NRC is responsible for regulating the safe design, manufacture, and loading of the cask, while the DOT is responsible for regulating safety in transport. NRC responsibilities have included independent review and certification of the shipping casks, inspection of canister design and manufacturing, review of canister and cask loading procedures, and radiological survey of each cask before it leaves TMI to assure compliance with NRC and DOT regulations. Prior to shipping, DOE, NRC, and DOT performed a lengthy safety inspection of the cask and transport vehicles being used for the TMI shipments. The Federal Railroad Administration routinely inspects the entire rail route and further inspects the train, railcars, and cask tie-down prior to each shipment. DOE is the shipper of record from the TMI site to the Idaho National Engineering Laboratory and has initial responsibility for assuring all transportation activities are in full compliance with applicable NRC and DOT regulations. DOE and its contractors have successfully put in place the entire transportation system which has safely transported the TMI-2 core debris. Finally, DOE, through its Idaho Operations Office, has established a thorough emergency plan for the TMI shipments.

Question 2. DOE justifies moving rail shipments of nuclear materials through densely populated areas by setting criteria that give the greatest weight to choosing the shortest route and the best maintained tracks. I have two questions about this: Is DOE the appropriate agency for setting such criteria? How would you react to the suggestion that there should be rail routing guidelines which give more attention to avoiding highly populated areas, similar to those used for highway transportation of hazardous materials?

Answer 2. While routing of radioactive shipments is a safety consideration, it is quite secondary to the package integrity which provides the primary protection in ensuring public health and safety. The massive casks used to ship spent nuclear fuel are designed to assure the contents will be contained, even in an extraordinary transportation accident. Rigorous design, analysis, and testing programs demonstrate these casks do indeed protect the public health and safety.

A consideration in rail route selection is the carrier serving shipment origin and destination. The TMI plant near Harrisburg, Pennsylvania, is served only by CONRAIL, whereas, the Department's Idaho facility is served only by the Union Pacific Railroad System. These two carriers were asked to assist DOE in determining a safe, efficient, and expeditious route for the proposed shipments. Rail carriers generally have the most detailed information for determining a route over various lines for any hazardous cargo.

Current DOT regulations do not establish specific rail routing criteria, but emphasize that all radioactive materials routing should attempt to minimize time in transit. The rail routing criteria applied to TMI-2 shipments parallels DOT's highway routing guidelines and considers time and date of transit, available carriers, number of switches, safety class of track, time in transit, operational delays, and population densities. If specific rail routing regulations are established, we believe DOT is the appropriate agency to take that action under the authority vested in them by the HMTA.

The best hazardous materials rail lines in this country generally transit large population areas. Thus, rail routing guidelines must consider population density as only one of many factors in route selection.

Question 3. DOE tells me that dedicated trains are not necessary for the safe transportation of highly radioactive materials such as the TMI wastes because it believes in the integrity of the containers that are used. Most railroads tell me they prefer to carry highly radioactive shipments separately. If one of the DOE's main criteria in selecting a route is avoiding switching, how can the use of mixed trains be justified? Isn't this contradictory? Should DOE's position be reassessed?

Answer 3. Because of the design of the shipping package used for transporting TMI-2 fuel and core material, DOE maintains that safe transport is not dependent upon dedicated train service. There is no present data that confirms that dedicated trains are safer than regular service trains.

The use of dedicated (special) trains for the safe transportation of highly radioactive materials has been a matter of litigation between the shippers of highly radioactive materials and the railroads for many years. The ICC, in several decisions upheld by the United States Courts of Appeals, has repeatedly found that the mandatory use of special trains for safety purposes is not justifiable. In fact, the ICC has held that the mandatory imposition of special trains by the railroads at the excessive rate levels charged for the service is a wasteful transportation practice. They ruled the railroads must end the unreasonable practice of refusing to carry radioactive materials except in special trains.

The testimony in the ICC and court cases, as well as numerous supporting studies (see NUREG/CR-4829, the NRC's "Modal Study"), do not support the railroads' contention that special train service is warranted.

Selecting rail routes to avoid unnecessary switching delays is always a consideration when selecting a route. In the case of the TMI shipments, the original route was selected to move the materials as safely and expeditiously as possible in regular train service. However, CONRAIL made regular train service impractical because they insisted on using local train service, which adds up to 13 days to the transit time. Thus, the decision was made to negotiate for dedicated trains rather than opt for the excessive delays incumbent with local train service. Additionally, each of the two massive casks and specially built flatcars represents a sizeable investment. It has always been the Department's position to improve cask and cask-car utilization.

The goals of the TMI shipping program managers were to remove the material from the site as expeditiously as possible. DOE (as supported in the court decisions) prefers to continue to have the option of either obtaining "regular" or "dedicated" rail service as program requirements dictate.

Questions of Senator Kasten and the Answers

Question 1. How manageable are current regulations? Do you see evidence of confusion at the State and local level, or are the workshops to which DOT refers providing adequate clarification?

Answer 1. The current regulations are both manageable and workable. The exemplary safety record for radioactive materials shipments, unparalleled by any other hazardous materials, is directly attributable to a uniform Federal regulatory framework. Specifically, radioactive materials packaging requirements provide a level of safety unsurpassed by the packaging provided for other hazardous materials.

DOE has sent representatives to participate in the DOT/State regional workshops. These meetings have provided a good source for exchanging information and discussing ways to improve and coordinate transportation of radioactive materials, including addressing public perception problems. Generally, States have reported they feel confident about the coverage of radioactive material regulations. Most commenters at these meetings say their immediate concerns are with shipments of other hazardous materials.

Question 2. Isn't it cumbersome to deal in Memorandums of Understanding to coordinate agency reponsibilities? Wouldn't it be preferable for all agencies to be subject to one set of regulations? It seems to me that public anxiety about nuclear shipments is heightened because they aren't confident that safety standards are uniformly high.

Answer 2. The DOE, NRC, and DOT share responsibilities in the transportation of nuclear materials. Each agency has defined roles, and staffs work closely to assure thorough coordination on various issues. The MOU is a common method for Federal agencies to define roles and share responsibilities.

Both DOE and its carriers are well versed in compliance with these regulations. We routinely conduct training courses for our contractors to review in detail all DOT radioactive materials transport regulations. We believe the regulatory standards for nuclear shipments are uniform, well defined, and complied with by shippers. The safety record for radioactive material shipments is enviable with no deaths or injuries due to the radiological nature of the material being shipped for over 40 years.

Question 3. I am alarmed to realize that the DOE sometimes uses casks or containers that the NRC earlier rejected. How can this be justified?

Answer 3. The idea that NRC has "rejected" DOE containers is incorrect; NRC has not rejected any containers for which DOE has requested a review. Out of the many cask designs submitted to NRC for review and/or certification, almost all have been certified. A handful of cask designs were "withdrawn" from the NRC review process for a variety of reasons—mostly because they were older designs that were determined to be uneconomical or impractical to upgrade to the newer regulations. All the withdrawn designs were eventually removed from service.

The tables of information provided in answers to Senator Adams' question 2 on DOE Type B casks summarize the number of cask with active NRC and/or DOE certificates and those casks withdrawn from the review process.

Question 4. Inspection and enforcement staffing seems to be the last priority, a fact that concerns me. Does your agency honestly have the staffing and financial resources to get the job done. What would be a better level?

Answer 4. The DOT has primary responsibility among Federal agencies for inspection and enforcement of hazardous materials shipments and could answer your question about staffing and financial resources for this task. DOE's Office of Environment, Safety, and Health, as well as the Transportation Management Division, Office of Defense Programs, augment DOT safety reviews by conducting comprehensive appraisals of its operations offices, which are responsible for shipping hazardous materials. Additionally, DOE operations offices maintain inspection and enforcement programs which include regular appraisals of their implementing contractor(s).

DOE supports the DOT's efforts to foster uniform Federal and State inspections for hazardous materials shipments and plans to continue to do so in the future.

Senator Exon. Thank you very much, Ms. Lytle.

Mr. Stello, welcome to you.

Mr. STELLO. Thank you, Mr. Chairman.

I have a statement. I would appreciate it if it could be entered into the record.

Senator EXON. Without objection, it is so ordered.

Mr. STELLO. I will briefly summarize what I think are the issues of interest to the Committee and what we are doing about them.

I have with me today Mr. Charles MacDonald, who is the Chief of our Transportation Branch. I think it is appropriate to start with the kinds of shipments that the NRC is involved with and why.

There are a variety of nuclear materials shipped, and the survey results show those shipments are large in number, 2.8 million packages shipped in 1981–1982, based on a survey in which we participated. These shipments involve radioactive materials which are very, very small, a millionth of a Curie, like smoke detectors, to millions of Curies like spent fuel shipments.

Obviously then the interest of the Agency is to avoid spending resources in an area that we do not need to, and make sure we spend resources where we need to. That would put the emphasis in terms of regulations, inspections, quality assurance, in the area where the concern is the greatest—that is, the hazard is the greatest—and that is where you have Type B packages which are designed to withstand transportation accidents to avoid harming the public.

There is obviously a concern with packages that contain lesser quantities of radioactive material, and these need to be controlled by regulation commensurate with that risk.

Through a Memorandum of Understanding with the Department of Transportation, with which our relationship has been very, very good over many, many years now, we have jointly together developed a system of regulation where the Department of Transportation develops the shipping containers and regulates in general shipment of radioactive material which involves low specific activity, or Type A containers. As a general principal, these are shipments of radioactive material for which the radiological hazard is small.

When you go to shipment of material for which the radiological hazard can be great, then those containers must be certified as meeting our regulations, which are very comprehensive in terms of design requirements, performance standards, and quality assurance programs.

We do inspections to inspect the manufacture of those containers, and do inspections at the beginning and end of shipments to monitor and to assure those containers are performing as they were intended.

To give you a perspective on the safety assessment, we looked based on industrial traffic accidents for what is generally considered the safer end of the spectrum, which are gasoline trucks, and if you apply those kinds of accident rates you would expect to see about one accident in 40 million miles of travel which could cause some functional damage to one of our containers, but would meet our acceptance criteria in terms of radiological risk.

If you then take that to where the damage might be somewhat greater, then you might exceed slightly those acceptance criteria, that would turn out to be about one in 80 million miles of travel.

It would take an accident, a very, very severe accident which we would calculate an occurrence of about 1 in 1.5 billion miles of travel. The reason I mention those numbers is to put some perspective on what is calculated to be the amount of travel necessary to remove all the spent fuel now contained in reactors. As a benchmark for that purpose, it would require about 40 million miles of travel to process all the spent fuel from the facilities.

To then take you back to the safety issue, you would have an accident for which you would not have a significant exposure to the public and meet acceptance criteria for that purpose.

I think our system of regulation and our record is excellent, and we intend to be very, very mindful to assure that we continue to achieve and maintain that excellent record over the years. We believe, and I think the study that was recently submitted to the Committee demonstrated, that our program has been very good, and their conclusion overall was a low probability of a likelihood that there would ever be a serious public exposure due to an accident involving one of our containers that we had certified.

With that, Mr. Chairman, I conclude my brief summary of the issues that are responsible to the NRC, and we are here to answer any questions you may have.

[The statement follows:]

STATEMENT OF VICTOR STELLO, JR., EXECUTIVE DIRECTOR FOR OPERATIONS, NUCLEAR REGULATORY COMMISSION

Mr. Chairman and Members of the Committee: I am pleased to have the opportunity to appear on the Federal Panel testifying on the reauthorization of the Hazardous Materials Transportation Act (P.L. 93-663).

I would like to present an overview of the role of the Nuclear Regulatory Commission (NRC) and our interactions with the principal federal agencies in radioactive material transport. I would also like to address the Office of Technology Assessment report of July 19, 1986 on the Transportation of Hazardous Materials.

ROLES OF FEDERAL AGENCIES

The transport of radioactive material is regulated principally by the Department of Transportation (DOT) and the NRC.

The DOT, under the Hazardous Materials Transportation Act and other statutes, is required to regulate safety in the transportation of hazardous materials, including radioactive material. Its authority extends to ensuring the safety of certain packages and regulating the conduct of shippers and carriers.

The NRC, under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended, is authorized to license and regulate the receipt, possession, use and transfer of "source material," "byproduct material," and "special nuclear material." This authority carries with it the responsibility to assure, by establishing standards, rules, and regulations, that the health and safety of the public are protected and the national defense and security are maintained for the transport of radioactive materials.

With respect to the regulation of the transportation of licensed radioactive material, the statutory jurisdiction of the NRC and the DOT overlap. For the purpose of developing and implementing consistent, comprehensive, and effective regulations, and avoiding duplication of effort, the respective regulatory roles of the DOT and NRC are set forth in a Memorandum of Understanding agreed to on June 8, 1979 (44 Fed. Reg. 38690—July 2, 1979). In general, the DOT is responsible for regulating safety during transport and packaging for low levels of radioactive materials. The NRC is responsible for regulating the design, manufacture, and use of packages containing fissile material and larger quantities or radioactive material which include high-level waste packages. The NRC regulations are primarily in 10 CFR Part 71, "Packaging and Transportation of Radioactive Material." In addition, the NRC has issued 10 CFR Part 73, "Physical Protection of Plants and Materials," which includes requirements for the protection of certain radioactive materials during transport based upon concern for deliberate acts to seize, damage, or sabotage the shipments.

In respect to emergency response for radioactive material accidents, the NRC has defined in a General Statement of Policy (49 Fed. Reg. 12335—March 29, 1984) (attached) its role in responding to accidents and incidents. Basically, the NRC actions include ensuring the awareness of affected parties of the event and offering and responding to requests for technical assistance by providing information, advice, and evaluations. The Federal Emergency Management Agency (FEMA) is responsible for coordinating federal and state participation in developing emergency response plans. Federal assistance for radiological protection in the event of an accident is available through the Department of Energy's (DOE) Radiological Assistance Teams located at 28 sites throughout the country.

OFFICE OF TECHNOLOGY ASSESSMENT (OTA) REPORT

With regard to the OTA report, I would like to address those sections of the report that pertain to our responsibilities as described above. The OTA report focuses on containers for radioactive materials, especially those for spent nuclear fuel, the so-called casks. The report states that issues of concern to Congress in requesting the study included: the adequacy of current container standards and safety analysis methods; the safety of spent fuel transport and the possible consequences of accidents; and the need for improvements in container manufacture, transport, and inspection.

We note with satisfaction OTA's finding "that technical evidence and cask performance in service indicate that NRC performance standards yield spent fuel shipping cask design specifications that provide for a very high level of protection—much greater than that afforded in any other current hazardous materials shipping activity." OTA concluded that "the probability of an accident severe enough to cause extensive damage to public health and the environment caused by a radiological release from a properly constructed cask is extremely remote." OTA cautioned, however, that "meticulous adherence to the designs and specified procedures during cask manufacture and to required safety procedures during loading and transport are critical factors in ensuring public and environmental safety." OTA further found that "fruitful areas for improvements in the overall safety of spent fuel transportation are to be found in the institutional, procedural, and operational controls and arrangements, such as quality assurance and quality control measures; maintenance activities; operator, handler driver training; and inspection." In regard to the potential areas of improvement, we have requirements in our rules for a quality assurance program for the design, construction, maintenance, and operation of spent fuel casks and other nuclear packages under our jurisdiction. This quality assurance program is supplemented by an inspection program which covers construction of casks and operations during loading and unloading of casks.

The Commission has been investigating the accident resistance of spent fuel packages, and, since the OTA report was issued, has completed a multi-year research study on the level of safety provided by NRC package standards under severe transportation accident conditions. The study determined the forces encountered in historically severe non-nuclear road and rail transportation accidents and analyzed the response to those forces of a spent fuel package designed to current standards. NRC published this study report entitled "Shipping Container Response to Severe Highway and Railway Accident Conditions" (NUREG/CR-4829) in February 1987. Among other results, the report concludes that the annual risk to the public health from spent fuel shipment accidents is less than one-third of that previously estimated in NRC's "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes" (NUREG-0170) published in 1977. The Commission relied on NUREG-0170 in part when we found in 1981 that our transport regulations provide for adequate public safety and that no changes were needed to improve safety. The Commission is in the process of preparing a brochure which summarizes the two-volume technical report in layman's terms.

We believe the results of NUREG/CR-4829 further corroborate the findings of OTA with respect to spent fuel package safety.

In summary, we believe all indications point to the fact that the NRC regulatory program provides a high degree of public protection. Nevertheless, we will continue a vigorous program of surveillance and assessment to assure that the program continues to provide this degree of safety and explore opportunities to make improvements. We believe this is particularly important with the coming generation of new spent fuel cask, perhaps with new designs and materials of construction, that will be used to ship spent fuel to an MRS or a repository.

CONCLUSIONS

In closing, Mr. Chairman, I would like to express our view that the roles and authorities among the agencies involved in the transportation of radioactive materials are well defined by existing statutes and subsequent agreements, and that the system provides for adequate coordination among the agencies. With regard to our responsibility in transport containers, we share your concern for safety in the transportation of radioactive materials. From a radiological perspective the safety record for radioactive materials transport is excellent, and independent reviews that indicate our standards provide adequate public safety are gratifying. Nevertheless, the Commission continues to identify areas for further research and evaluation and is prepared to modify its rules or practices as may be required to maintain the transportation safety record.

[The following information was subsequently received for the record:]

U.S. NUCLEAR REGULATORY COMMISSION,
Washington, DC, July 13, 1987.

Hon. ERNEST F. HOLLINGS,
Chairman, Committee on Commerce, Science, and Transportation,
Washington, DC.

DEAR MR. CHAIRMAN: Enclosed, for inclusion in the Hazardous Materials Transportation Act hearing record of May 12, 1987, are our responses to post-hearing questions from the Subcommittee on Surface Transportation.

I trust this information is responsive to your needs. If I can be of further help, please do not hesitate to contact me.

Sincerely,

JOHN C. BRADBURNE,
Director, Congressional Affairs,
Office of Governmental and Public Affairs.

Enclosure:

Question 1. Some have proposed the use of dedicated trains to carry shipments of extremely radioactive materials. What are your views on this?

Answer. The Commission believes that neither safety nor safeguards considerations dictate the use of dedicated trains. Hence NRC's regulations do not require the use of dedicated trains. However, the Commission realizes the desire of states for greater participation in the transportation regulation process. If states desire an additional degree of confidence that spent nuclear fuel is being transported safely within state borders, the Commission suggests that states examine the inspection and escort program of the State of Illinois. Each spent nuclear fuel shipment traveling in Illinois is inspected by the State's Department of Nuclear Safety to assure that all applicable Federal and State radiation protection requirements are met. The Illinois State Police inspect and escort trucks carrying these shipments. The Illinois Commerce Commission inspects rail shipments. This inspection and escort program provides Illinois with an added measure of assurance that spent nuclear fuel is being transported safely without, it appears, imposing burdensome procedures on licensees and carriers.

Question 2. What role do you feel States and localities should play in the transportation of radioactive materials? How do you feel the federal government might improve in its assistance to States and localities, particularly in terms of information and resources?

Answer. The roles of State and local governments should be limited to those activities not preempted by the routing and other regulatory requirements of the U.S. Department of Transportation (DOT). States should enforce DOT regulations when those regulations have been incorporated into State law, but this enforcement should be no more burdensome to interstate commerce for radioactive materials than for any other hazardous materials.

The NRC recognizes the primary responsibility of State/local jurisdictions in protecting members of the public in case of accidents, including those involving radioactive materials (see *NRC Response to Accidents Occurring During the Transportation of Radioactive Material: General Statement of Policy,* 49 FR 12335, March 29, 1984).

Much information and training is available to States and localities, both from the Federal government and from the private sector (see *Report to the Congress on Hazardous Materials Training, Planning, and Preparedness*, U.S. Department of Transportation and Federal Emergency Management Agency, July 1986). We understand that the Department of Transportation and the Federal Emergency Management Agency are considering the best means for providing any additional information and resources to State and local government agencies.

Question 3. DOE has apparently submitted a number of shipping casks, which it self-certifies pursuant to 49 CFR 173.7(d), to NRC for direct certification. NRC apparently has raised a number of questions about these casks and DOE subsequently withdrew a number of the certification requests. What problems did NRC identify with the DOE casks and why didn't NRC certify them since in theory they already complied with NRC regulations?

Answer. DOE, on its own initiative, has submitted 17 shipping cask designs, which DOE may self-certify, to the NRC for certification. For many of them, NRC requested additional information from DOE. In 17 cases, DOE did respond to NRC requests. DOE later withdrew the packages from service and withdrew their requests for certification. Areas where specific information was requested for these 17 designs are provided in the accompanying table. It should be noted that none of these design applications were actually denied or "rejected" by the NRC, as the NRC review for these cases was never completed.

CASK APPLICATIONS CANCELLED OR WITHDRAWN BY DOE

DOE certificate No.	Package type	Model No.	Additional information requested (See explanations below [1])
1. 5469	Spent fuel	HNPF	1, 2
2. 5608	....do	BR-63-0101	1, 2, 6, 7
3. 5753	....do	ORNL LOOP	6, 7
4. 5907	....do	ORNL In-pile	1, 2, 3, 5, 6, 10
5. 6104	....do	ANL-390	2, 6, 9
6. 6345	....do	ANL-402-SPM/403-SPM	1, 5, 9
7. 6495	....do	Paducah Cask	1, 6, 8, 9
8. 4960	PU, Normal form	LLD-1	2, 8
9. 5645	PU, Special form	AL/5645	1, 2, 8, 10, 11
10. 5885	....do	FRFE	2
11. 6115	....do	R1010-0032	1, 2, 3, 9
12. 9931	PU, Normal form	C47H, C47V	1, 6
13. 5097	Fissile Uranium	44	2, 8, 9
14. 5170	....do		8, 10
15. 5467	....do		8
16. 6088	Waste, Type B	Garden Carrier No. 2	2, 8, 9
17. 6421	Byproduct Special Form	AL/6421	2

[1] Explanations:The NRC was not able to complete its review under 10 CFR Part 71 because NRC did not receive a response to its request for additional information. Specific requests for information included:

1. Detailed design drawings
2. Thirty foot drop test analysis
3. Puncture analysis
4. Internal gas generation and effects on package containment
5. Buckling and brittle fracture of containment vessel
6. Establishment of specific containment criteria
7. Analysis of containment vessel for normal and accident conditions
8. Criticality analysis
9. Operating procedures, acceptance and maintenance programs
10. Thermal analysis
11. Shielding analysis

Question 4. NRC's current routing and notification regulation are aimed at limiting the consequences of acts of sabotage and terrorism and NRC does not believe that there is any other safety factor necessitating consideration of routing. How does the NRC reconcile its obligation to keep radiation doses to the public, including transport workers, As-Low-As-Reasonably-Achievable, while ignoring routing consequences?

Answer. In 1977, NRC prepared a Final Environmental Statement (FES) on the Transportation of Radioactive Materials by Air and Other Modes (NUREG-0170), which found that radiological risks in transport are small, and that routine radiation doses to the public and the transport workers are very low and not very sensitive to routing. The Commission subsequently concluded that "present regulations are adequate to protect the public against unreasonable risk from the transport of radioactive materials." A strict application of As-Low-As-Reasonably-Achievable (ALARA) would require the direct routes through cities rather than the use of beltways around cities, where available. DOT's routing rule does seek to minimize radiological transport impacts but, based on the FES, NRC advised DOT on their highway routing (DOT Docket HM-164) to require routing of shipments so as to minimize *total* annual health impacts, including nonradiological impacts. We believe, all things properly considered, transport exposures are ALARA.

Question 5. NRC's testimony argues that as a result of a recent study of historical highway and railroad accident conditions the public is really even safer than previously thought. Please provide the study cited in your testimony and identify any other studies completed in the last ten years by the NRC relevant to transportation of radioactive shipments.

Answer. A copy of the study mentioned in our testimony, NUREG/CR-4829, "Shipping Container Response to Severe Highway and Railway Accident Conditions," February 1987, is attached.[1] The following additional NUREG and NUREG/CR Reports are related to transportation of radioactive shipments:

NUREG/CR-4829 (Vols. 1 and 2).—Shipping Container Response to Severe Highway and Railway Accident Conditions

NUREG-0383 (Vols. 1, 2, and 3).—Directory of Certificates of Compliance for Radioactive Material Packages

NUREG/CR-4363.—Study on Fabrication Criteria for Ductile Cast Iron Spent Fuel Shipping Containers

NUREG/CR-4035.—Highway Accident Involving Radiopharmaceuticals Near Brookhaven, Mississippi on December 3, 1983

NUREG/CR-3854.—Fabrication Criteria for Shipping Containers

NUREG/CR-3611.—Radiocative Material (RAM) Accident/Incident Data Analysis Program

NUREG/CR-3019.—Recommended Welding Criteria for Use in the Fabrication of Shipping Containers for Radioactive Materials

NUREG-1015.—State Surveillance of Radioactive Material Transportation

NUREG/CR-3536.—Simulation of Loading Conditions for a Type A Package Containing Americium-241 Involved in an Airplane Crash at Detroit Metro Airport in January, 1983

NUREG/CR-2325.—Transportation of Radioactive Material (RAM) to and from U.S. Nuclear Power Plants (Draft Environmental Assessment)

NUREG/CR-3452.—Mechanical Analysis of Transportation Involving Empty Shipping Casks for Radioactive Materials Near Hilda, South Carolina, in November, 1982

NUREG/CR-3499.—Severe Rail and Truck Accidents: Toward a Definition of Bounding Environments for Transportation Packages

NUREG/CR-3445.—Cost-Benefit Analysis of Unfired Pu02 Pellets as an Alternative Plutonium Shipping Form

NUREG/CR-2146.—Dynamic Analysis to Establish Normal Shock and Vibration of Radioactive Material Shipping Packages

NUREG/CR-2949.—Transportation of Radioactive Material in Washington State

NUREG/CR-2472.—Final Report on Shipping Cask Sabotage Source Term Investigation

NUREG/CR-2852.—Transportation of Radioactive Material in Nevada

NUREG/CR-2851.—Transportation of Radioactive Material in Illinois, June 1980–June 1981

NUREG/CR-2842.—Transportation of Radicoactive Material in South Carolina October 1980–September 1981

NUREG/CR-2736.—Transportation of Radioactive Material in Michigan

NUREG/CR-2699.—Transportation of Radioactive Material in Maryland: Transportation Surveillance Study

NUREG/CR-2440.—Transport of Low Specific Activity Radioactive Materials

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[1] The study is in the Committee files.

NUREG/CR-2225.—An Unconstrained Oversight of the Critical Elements in a Model State System for Emergency Response to Radiological Transportation Incidents

NUREG/CR-2036.—Transportation of Radioactive Material in Florida

NUREG/CR-2195.—Transportation of Radioactive Material in South Carolina (Surveillance Study October 1979–September 1980)

NUREG/CR-2280.—Transportation of Radioactive Material in Georgia (Transportation Surveillance Study, October 1979–1980)

NUREG/CR-2037.—Transportation of Radioactive Material in Washington State (Transportation Surveillance Study September 1979–September 1980)

NUREG/CR-1815.—Recommendations for Protecting Against Failure by Brittle Fracture in Ferritic Steel Shipping Containers up to Four Inches Thick

NUREG/CR-2034.—Transportation of Radioactive Material in Michigan (Transportation Surveillance Study 1 September 1979–31 August 1980)

NUREG/CR-2033.—Transportation of Radioactive Material in Georgia (Rept for October 1978–September 1979)

NUREG/CR-1858.—A Review of Removable Surface Contamination on Radioactive Materials Transport Containers

NUREG/CR-1117.—A Method for Determining Radioactive Material Shipment Patterns in Urban Areas

NUREG/CR-2035.—Transportation of Radioactive Material in Illinois (6 June 1979–6 June 1980)

NUREG/CR-1588.—Potential Crush Loading of Radioactive Material Packages in Highway, Rail and Marine Accidents

NUREG/CR-1671.—Transportation of Radioactive Material in Kentucky (October 1978–December 1979)

NUREG/CR-1275.—Annotated Bibliography on the Transportation and Handling of Radioactive Materials

NUREG/CR-1620.—Survey of Current State Radiological Emergency Response Capabilities for Transportation Related Incidents

NUREG/CR-1277.—Shock Environments for Large Shipping Containers during Rail Coupling Operations

NUREG/CR-0744.—Identification and Assessment of the Social Impacts of Transportation of Radioactive Materials in Urban Environments

NUREG/CR-0535.—Review and Assessment of Package Requirements (Yellowcake) and Emergency Response Transportation Accidents

NUREG/CR-0742.—Review and Integration of Existing Literature Concerning Potential Social Impacts of Transportation of Radioactive Materials in Urban Areas

NUREG/CR-0930.—Puncture of Shielded Radioactive Material Shipping Containers: Analysis and Results

NUREG/CR-1194.—Transportation of Radioactive Material in Michigan (1 September 1978–31 August 1979)

NUREG/CR-1193.—Transportation of Radioactive Material in Illinois (6 June 1978–6 June 1979)

NUREG/CR-1149.—Emergency Response Scenarios for Transportation Accidents Involving Radioactive Materials

NUREG/CR-1263.—Compilation of State Laws and Regulations on Transportation of Radioactive Materials

NUREG/CR-614.—Shipping Containers for Nuclear Materials: A Descriptive Bibliography

NUREG/CR-0931.—Transportation of Radioactive Material in Georgia (1 August 1977–30 September 1978)

NUREG/CR-756.—Transportation of Radioactive Material in Illinois (6 June 1977–6 June 1978)

NUREG/CR-0266.—Transportation of Radioactive Material in South Carolina (31 January 1977–1 February 1978)

NUREG/CR-0286.—Transportation of Radioactive Material in Pennsylvania (October 1976–September 1977)

NUREG/CR-0393.—Summary Report of the State Surveillance Program on the Transportation of Radioactive Materials

NUREG/CR-0170.—The Transportation of Radioactive Materials by Air and Other Modes

NUREG/CR-334.—Executive Summary of Safeguards Systems Concepts for Nuclear Material Transportation

NUREG/CR-0335.—Safeguards Systems Concepts for Nuclear Material Transportation

NUREG/CR-0179.—Regulatory and Other Responsibilities as Related to Transportation Accidents

NUREG/CR-0194.—Calculations of Radiological Consequences from Sabotage of Shipping Casks for Spent Fuel and High-Level Wastes

NUREG/CR-0154.—Exposure of Airport Workers to Radiation from Shipments of Radioactive Materials. A Review of Studies Conducted at Six Major Airports

NUREG/CR-0069.—Potential Releases of Cesium from Irradiated Fuel in a Transportation Accident. Supplement II to WASH-1238.

NUREG/75/038.—Environmental Survey of Transportation of Radioactive Materials to and From Nuclear Power Plants. Supplement I

NUREG/CR-3826.—Recommendations for Protecting Against Failure by Brittle Fracture in Ferritic Steel Shipping Containers Greater than Four Inches Thick

NUREG-0360.—Qualification Criteria to Certify a Package for Air Transport of Plutonium

NUREG/CR-0558.—Study of the Mechanics of a Transportation Accident Involving Natural Uranium Concentrate

NUREG-0361.—Plutonium Air Transport Package Model PAT-1-Safety Analysis Report

NUREG/CR-0992.—Mechanics of a Highway Accident at Wichita, Kansas, Involving Natural Uranium Concentrate

NUREG/CR-3760.—A Study on Ductile and Brittle Failure Design Criteria for Ductile Cast Iron Shipping Containers

NUREG/CR-0428.—Review of Criteria for Packaging Plutonium for Transport by Air

NUREG/CR-4847.—Case Histories of West Valley Spent Fuel Shipments

Enclosure: NUREG/CR-4829.

Question 6. Please provide an inventory of all NRC approved casks.

Answer.

SPENT FUEL SHIPPING CASKS CURRENTLY CERTIFIED BY NRC

Model No.	Certificate No.	Mode of transport	Contents
BMI-1	5957	Truck	Material Test Reactor & Research Reactor Fuels.
FSV-1A	6346	do	High Temperature Gas Cooled Reactor Fuel.
GE-100	5926	do	Fuel Rods or Fuel Plates.
GE-600	5980	do	Reactor Fuel.
IF-300	9001	Rail	Commercial Power Reactor Fuel.
IPO-200	5971	Truck	Fuel Rods or Fuel Plates.
M-130	6003	Rail	Naval Reactor Fuel.
M-160	9781	do	Do.
NAC-1	9183	Truck	Natural Uranium Fuel Rods.
NLI-1/2	9010	do	Commercial Power Reactor Fuel.
NLI-10/24	9023	Rail	Do.
NLI-6502	9103	Truck	NRU/NRX Reactor Fuel Rods.
T-2	5607	do	Test Reactor Fuel.
T-3	9132	do	Mixed Oxide Fuel Assemblies.
TN-8, TN-8L	9015	do	Commercial Power Reactor Fuel.
TN-9	9016	do	Do.
125-B	9200	Rail	TMI-2 Reactor Fuel.
700	5942	Truck	Fuel Rods or Fuel Plates.
1600	9044	do	Do.

(a) The historical record shows that several NRC casks have had to be withdrawn from service or their use modified because they were ultimately found to be defective in some manner. How many NRC casks have been withdrawn from service or required modification or alteration of service after being approved? Please identify them by name, date of approval and alteration of approval?

Answer.

Model No	Certificate No	Modification or alteration
NAC-1	9183	This cask was formerly identified as the Model No. NFS-4, Certificate No. 6698. Containment vessel dimensions deviated from design requirements, probably caused by manufacturing methods used during lead pour. Casks were ordered out of service April 6, 1979. Three of the seven casks were returned to limited service December 12, 1979 with the following restrictions: 1) maximum decay heat load reduced from 11.5 kilowatts to 2.5 kilowatts, and 2) the casks were required to be shipped dry. Subsequently several amendments were issued and on July 23, 1983, all casks were returned to service with contents limited to uranium metal fuel rods and decay heat limited to 625 watts.
IF-300	9001	In June of 1981, General Electric Co. and Carolina Power and Light Co. notified NRC that the pressure relief valve on the cask did not perform as expected during operational tests. As a result, casks were removed from wet service and only shipped dry. On April 6, 1982, Revision No. 13 to Certificate of Compliance No. 9001 deleted wet shipments.
		In September 1982, General Electric Co. and Carolina Power and Light Co. notified NRC that a nonconservative BWR basket weight was used in the analysis of the 30-foot drop test. On September 30, 1982, shipment of BWR fuel assemblies was deleted by Revision No. 14 to the certificate of compliance. On March 22, 1983, Revision No. 15 to the Certificate of Compliance was issued which reinstated the shipment of BWR fuel assemblies based on General Electric Co. structural analysis demonstrating adequacy of the BWR fuel basket.
BMI-1	5957	In February 1985, NRC was notified that radioactive contamination was present in the shield cavity. Cask was not to be until corrective action had been taken. On March 22, 1985, NRC approved the repairs to the cask and the cask was returned to normal service.
1600	9044	In January 1987, NRC was notified of a cracked weld at the bottom of the cask. The Cask is to remain out of service until repairs are satisfactorily completed.

(b) Have any current NRC-licensed casks successfully passed physical, thermal, drop and immersion tests. Have any been destructively tested?

Answer. No destructive tests or full-scale physical tests to the conditions specified in 10 CFR Part 71 have been conducted on spent fuel casks presently licensed by the NRC. The NRC requires applicants to demonstrate that cask designs meet NRC safety standards. This demonstration may be by means of full-scale testing, scale model testing, engineering analysis, or a combination of these methods.

Casks that are currently licensed by the NRC have met our safety standards by a combination of scale model testing and engineering analysis. The use of engineering analysis techniques, including computer modeling, and the use of scale model tests are well established and verified engineering practices. A number of computer programs are available and have been used by engineers to accurately model a variety of different systems and to successfully predict their performance under specific conditions. Likewise, the scientific basis and reliability of scale model testing is well documented in the technical literature.

Question 7. Does NRC have regulatory authority under existing statutes to require licensing of all DOE high-level nuclear waste or spent fuel shipments and casks to an MRS or a repository since those will be NRC licensed facilities?

Answer. No.

It is well established that the transportation of source, special nuclear, or byproduct material by the Department of Energy is not subject, under the Atomic Energy Act of 1954, as amended, to regulation by the NRC. That statute generally extends NRC jurisdiction to any "person" engaged in specified activities, but excludes "the [Atomic Energy] Commission" and its legal successors from the scope of this definition. DOE is a successor to AEC insofar as it exercises functions authorized by the Atomic Energy Act. (NRC does have licensing jurisdiction, however, "as to" certain DOE storage facilities, under Section 202 of the Energy Reorganization Act of 1974.)

In view of this background, there is no requirement under the Atomic Energy Act, nor the Nuclear Waste Policy Act of 1982, for DOE to comply with NRC transport regulations. This would include transportation of DOE high-level nuclear waste or spent fuel and casks to an MRS or a repository.

Question 8. What considerations and procedures does NRC take to assure that state and local emergency response capability is available and adequate along approved transportation routes and for individual shipments?

Answer. The NRC has no authority over State or local emergency response organizations. However, the NRC maintains an awareness of the capabilities of States for responding to radiological transportation emergencies. About ten years ago, the NRC commissioned a study of the subject (*Survey of Current State Capabilities for*

Transportation Related Incidents, NUREG/CR-1620, School of Environmental and Public Affairs, Indiana University, September 1980). We are in the process of awarding a contract to update this study. Further information is also available (*Profile of State and Local Radiation Control Programs in the United States for FY-1985,* Conf. Pub. 87-3, Conference of Radiation Control Program Directors, 1987).

In the event we are notified of a transportation accident, NRC would notify the affected state that Agency is prepared to provide technical assistance (see answer to Question 2).

In addition, we are cognizant of the information contained in the Congressionally mandated DOT-FEMA study (see answer to Question 2) and the extensive response information available through CHEMTREC (a service of the Chemical Manufacturers Association), the U.S. Department of Energy, and other sources.

Question 9. Could you describe your agency's responsibilities with regard to the TMI shipments and walk us through the processes your agency has been involved in to date? Please include a description of your interaction with the other two agencies.

Answer. The NRC does not have regulatory authority for Department of Energy (DOE) TMI shipments, however NRC performed a safety review of the cask being used for TMI shipments and determined that its design meets NRC requirements. The DOE, on its own initiative, submitted the application to NRC for review on June 14, 1985. Additional information was requested from the applicant on August 9 and December 23, 1985. Over 12 meetings were held with the applicant. NRC Certificate of Compliance No. 9200 for the Model 125B cask was issued on April 11, 1986 and revised on July 17, 1986. The NRC also inspected the manufacture of the shipping cask and the canisters which hold the fuel debris within the cask. DOE is the shipper of record from the TMI site to the Idaho National Engineering Laboratory.

The NRC has a Project Office located at the TMI-2 site. The Project Office reviews and approves the design of the canisters, procedures for loading fuel into the canisters and procedures for loading the canisters into the cask. Before a shipment leaves the site, the Project Office performs a radiological survey of the cask to assure compliance with NRC and DOT regulations.

The actual transport of the casks, including the routing, is regulated by DOT. Thus, NRC is responsible for reviewing the safe design, manufacture and loading of the TMI cask while DOT is responsible for regulating safety in transport.

Question 10. DOE justifies moving rail shipments of nuclear materials through densely populated areas by setting criteria that give the greatest weight to choosing the shortest route and the best maintained tracks. I have two questions about this: Is DOE the appropriate agency for setting such criteria? How would you react to the suggestion that there should be rail routing guidelines which give more attention to avoiding highly populated areas, similar to those used for highway transportation of hazardous materials?

Answer. Under existing law, DOT has rail routing regulatory responsibility, while DOE has responsibility for selecting rail routes for its shipments. As stated in the answer to question 4, NRC believes that radioactive material routing guidelines should minimize total annual health impacts. From the technical standpoint, it should be noted that NRC has prepared a Final Environmental Impact Statement (NUREG-0170) on the transport of radioactive materials that considered rail transport and concluded that radiological transport risks are small.

Question 11. DOE tells me that dedicated trains are not necessary for the safe transportation of highly radioactive materials such as the TMI wastes because it believes in the integrity of the containers that are used. Most railroads tell me they prefer to carry highly radioactive shipments separately. If one of the DOE's main criteria in selecting a route is avoiding switching, how can the use of mixed trains be justified? Isn't this contradictory? Should DOE's position be reassessed?

Answer. NRC defers to DOT on specific questions concerning route safety, mixed versus dedicated tranis, etc. (see response to question 4). However, based on our assessment of the transport safety standards, the transport safety record, and confirmatory research studies, we believe the package designed to NRC standards and practices provide adequate safety during shipment.

Question 12. How manageable are current regulations? Do you see evidence of confusion at the state and local level, or are the workshops to which DOT refers providing adequate clarification?

Answer. As with any regulatory system that has evolved from several different authorizing statutes, there is always the potential for confusion. Nevertheless, it is our belief that the regulatory roles among federal agencies are well defined, and the regulatory system provides for adequate protection of the public health and safety. The regional workshops on the transportation of radioactive material sponsored by

DOT have brought federal, state and Indian representatives together to begin a dialogue on regional transport questions and concerns. It is our understanding that the state and Indian representatives have found the workshops helpful.

Question 13. Isn't it cumbersome to deal in Memorandums of Understanding to coordinate agency responsibilities? Wouldn't it be preferable for all agencies to be subject to one set of regulations? It seems to me that public anxiety about nuclear shipments is heightened because they aren't confident that safety standards are uniformally high.

Answer. The authorizing statutes for DOE, NRC, and DOT provide overlapping responsibilities in the area of radioactive material transportation due to the unique characteristics of these materials. Memorandums of Understanding provide an effective means for delineating these responsibilities and eliminating duplication of effort. In fact we believe that effective operation of these agencies has resulted in high safety standards. NRC and DOE are at present considering a Memorandum of Understanding which would address consistency in the application of safety standards to the package certification process.

Question 14. I am alarmed to realize that the DOE sometimes uses casks or containers that the NRC earlier rejected. How can this be justified?

Answer. DOE has recently established an independent group to perform the technical review of package designs and has formal training courses for the reviewers. Many of the reviewers have also spent one or two weeks working at NRC to observe the NRC review process. Our impression of the new DOE certification process is that it is very good.

The casks in question were submitted to NRC *before* DOE established its new centeralized review and certification process. After the new DOE certification process was initiated, we understand that all of the casks in question have been removed from service. In all, we understand that DOE has de-certified 18 package designs which were previously authorized by DOE before the new DOE review group was formed.

Question 15. Inspection and enforcement staffing seems to be the last priority, a fact that concerns me. Does your agency honestly have the staffing and financial resources to get the job done? What would be a better level?

Answer. At this time, the NRC has no information which suggests that the current level of NRC effort, resources, and funding in performing transportation inspections is inadequate.

The conduct of inspections of transportation activities of NRC licensees is given equivalent priority within the overall NRC program of inspecrion of other radiological safety aspects. Region-based radiation specialist inspectors are provided with training in nuclear transportation regulations. These inspectors, whether in the materials license facilitity, fuel facility, or reactor inspection program areas, routinely inspect transportation activities. For major shippers, such as fuel facilities, reactors, and major radioisotope suppliers, the frequency of such inspections is at least annually. On a reactive inspection basis, NRC has been inspecting a high percentage of actual shipments in the spent fuel shipping campaigns over the past four years. These shipments have involved the facilities at West Valley, NY, Morris, IL and Three Mile Island, in addition to several other reactors facilities.

Senator EXON. Thank you all very much.

Let me ask a question of each of you. Does the Department of Transportation and/or the Department of Energy and/or the Nuclear Regulatory Commission think the present system—is wise, and do you subscribe to any additional legislation in the area of the movement of any kind of hazardous material? Or do you think the present system that we have in place is adequate?

Ms. DOUGLASS. Well, let me comment first, since I am from DOT. We do have a legislative proposal that is currently undergoing internal review. We think it is a very good proposal, and we think it makes a number of good recommendations for changes in the Hazardous Materials Transportation Act.

Senator EXON. How soon do you expect, Ms. Douglass, that that might be over here? In a week, or a year?

Ms. DOUGLASS. Well, I am hopeful that it will be closer to a week.

Senator EXON. Well, we would be very pleased to have that, because one of the real problems we have here, we do not mind—in fact, sometimes maybe we initiate too much legislation—but we certainly like to have the ideas of the experts in the administration of these laws to help us out. So as soon as you can get that cleared with the Secretary and the proper officials over there, why I am sure we would like to see it over here.

Ms. Lytle, what is your answer to my question?

Ms. LYTLE. I think it would be more appropriate if we waited until the DOT proposal was cleared through the administration. Then we would be very happy to provide comments on that.

Senator EXON. Your agency do not have, then, in answer to my question, additional legislation or anything like that in mind? Is that correct?

Ms. LYTLE. I am sorry, sir. The reason I framed my answer like that is that, although we have of course discussed within the agency possible strengthening measures to the act, we have not proposed anything formal that has been cleared through the agency yet.

Senator EXON. Mr. Stello?

Mr. STELLO. The Nuclear Regulatory Commission has not taken a position with respect to the need for additional legislation, but in preparing to come to the hearing a few areas, where more interest on behalf of Congress and their study I think would be useful, and that is the area of whether we have been successful yet in achieving enough training for emergency responders.

We have done a great deal through the Nuclear Regulatory Commission's program for fixed-site planning within the States. In checking before we came here, about 80 percent of those States now have emergency preparedness that also deals with transportation accidents. But we are going to do a survey, and based on that survey it may dictate the need for additional emphasis and funding in the area of emergency response training. I do not know that that needs to be through legislation, but certainly the budget process; someone would have to have the funding to do that.

Senator EXON. Thank you. I may have some further questions at a later time, but I am happy to yield at this time to Senator Adams for any questions he might have.

Senator ADAMS. Ms. Douglass, you mentioned that you regulate the transportation. You have a Memorandum of Understanding.

Is it not true that under 49 CFR that shipments of radioactive material made by or under the supervision of DOE which are escorted by personnel designated or under authority of those agencies are not subject to your regulations?

Ms. DOUGLASS. That is basically true.

Senator ADAMS. That is true. Let us not say "basically." That is true.

Now the second, under (d), "Not withstanding the requirements of this subchapter, packages made by and under the direction of the U.S. Department of Energy may be used for transportation of radioactive materials when evaluated, approved, and certified by the Department of Energy against packaging standards equivalent to those specified in 10 CFR 71."

So they can self-certify their packaging, can they not?

Ms. DOUGLASS. Yes.

Senator ADAMS. Now, Ms. Lytle, since they can do that and you have the power to avoid DOT's regulations, can you tell me why it is that DOE has asked—and I will come to you in a minute, Mr. Stello—on nine separate occasions to have the casks approved, and on nine times they have had to withdraw them because the NRC would not approve them? I will give you the names of the casks, if you want them, but you are aware of that, I assume.

Ms. LYTLE. Senator, you are asking me about what the reasons were, or the conditions?

Senator ADAMS. No, that you have put these casks that you are using up to NRC and they refuse to approve them.

Ms. LYTLE. In the past I believe there have been a number of instances where a cask was presented to the NRC for certification and that request was withdrawn. I do not have the details now. I would be glad to present them for the record.

[The following information was subsequently received for the record:]

Of the nine packages discussed by Senator Adams, all have been retired from service. These nine packages are among 17 whose Nuclear Regulatory Commission (NRC) reviews were cancelled by requests from the Department of Energy (DOE) between 1983 and 1985. Of the remaining eight packages, four were removed from service, making a total of 13 removed. Three additional in-use packages are now under review by the DOE to determine future use. One remaining package is in use under both DOE and NRC certificates.

About 18 months ago, the DOE established a totally independent Centralized Certification Program at Headquarters. This program is fundamentally identical to the NRC certification program. The individual certification authority of DOE's eight regional field offices was withdrawn in implementing the centralized program. The new Centralized Certification Office was established to strengthen the Department's program, provide a more homogenous process, and ensure the program meets all Department of Transportation and NRC requirements.

In this last 18 months, DOE has voluntarily removed 19 packages from service and cancelled their certificates. In addition, all DOE packages have been assigned dates by which they will receive a rigorous, in-depth review for compliance with the latest regulations before renewal of their certificates. Regulatory standards applied include NRC's 10 CFR 71 and DOT's 49 CFR 173.

The DOE Certification Office has developed and trained a corps of experts in the various engineering disciplines that are dedicated solely to technical review of packages for certification. The Certification Office has established a close working relationship with NRC and DOT to ensure equal and consistent review. Some of the new efforts include joint funding with NRC for development and research of new packaging design review codes, and coordination with DOT of the results of a test program for DOT 7A Type A containers.

Specialized one-of-a-kind training courses have been developed such as Methods of Analysis of Containers for Certification, which is a course including work with computers, codes, and existing safety analysis reports. Also, courses were developed in the areas of quality assurance for packaging and hydrogen gas generation in packaging. Other courses are also under development.

A proposed regulatory text has been prepared for publication in the Federal Register, and ultimately in the Code of Federal Regulations (10 CFR 872), covering DOE Radioactive Material Packaging Certification Regulations equal to DOT/NRC certification regulations (the proposed draft is currently undergoing review at the DOE).

We maintain a computer program to maintain information on all certificated packagings. A guidance document to define the certification review process has also been published.

Finally, a memorandum of understanding between the DOE Centralized Certification Office and the NRC is being jointly developed to define how the DOE process conforms to NRC requirements and practice.

Senator ADAMS. Well, I will tell you what. I will ask you a question on that in writing, because I do not want to take a lot of time from the chairman.

I will defer that and, Mr. Stello, come to you. That is TRUPACT. I have gotten a list of all these, and it includes such things as you dropped it from a helicopter 2,000 feet in the air, and so on. This is Class B Cask.

Now it says that it was a success because it met the NRC 30-minute fire test. Now, unfortunately, at 35 minutes it failed. Now is it your position that TRUPACT is a safe, certified cask?

Ms. LYTLE. Sir, it is my position that it is a safe package. It is not yet certified.

Senator ADAMS. You say it is safe, and you are using it. Now why have you asked the DOT to grant an exemption for TRUPACT from the NRC's standards?

Ms. LYTLE. You are asking about the reason for the request?

Senator ADAMS. Why have you asked for the exemption, then, if you think it is certified safe, and you are following the system you have just outlined to make us all comfortable that all these agencies are working together? You are asking for exemptions, are you not?

Ms. LYTLE. That is not exactly the case. In this instance what we are asking the Department of Transportation to do is to have a rulemaking procedure on——

Senator ADAMS. No, no, no. I am just saying that the way you are doing it is that you have asked that this be exempted, this cask that you are using, and you can self-certify—that is what I brought out from Ms. Douglass, and I will get to Mr. Stello in a minute—and under your self-certification you have got one that the NRC will not approve.

Ms. LYTLE. The question you are asking about is TRUPACT? I take it you are asking about the petition to DOT, why are we doing this, in other words?

Senator ADAMS. Yes, because you do not have a certified cask.

Ms. LYTLE. We have not certified it yet. The reason we have asked DOT to consider the issue of that particular package is because the regulations that we use, which are the same regulations that the NRC uses, those were not written for the specific type of material that we are going to transport——

Senator ADAMS. What I am getting at is you as the shipper can go right ahead and ship under your own internal procedures without meeting NRC, or without meeting DOT. In other words, you are it.

Ms. LYTLE. Senator, I am a bit confused by the question because——

Senator ADAMS. Well, you are the one that can say it goes.

Ms. LYTLE. Yes, we can. But we must do it in accordance with the same regulations that the NRC uses. That is the way the regulation is written.

Senator ADAMS. And you asked for an exemption from DOT for this. I am just using this particular one.

Ms. LYTLE. Well, the term you are using, "exemption," is one that is difficult for me because that is not exactly what we are asking for. We are asking DOT to make a——

Senator Adams. A "waiver." Use your word.

Ms. Lytle. We are asking for a rulemaking on the question of how a package should be designed for this type of material. We are asking for a clarification of the rule; for a new rule for this type of material.

But you are absolutely correct. We do have the authority to certify our own packages.

Senator Adams. Right. And do.

Ms. Lytle. Yes, we do, sir.

Senator Adams. And transport.

Ms. Lytle. Yes.

Senator Adams. Okay. Now, Mr. Stello, I just have a list here. If you want to respond later on this, but there was Container HFBR; that was in 1978. Container Rover, 1975. Container HNPF, 1978. ANL-402-SBN in 1979. ANL-390 in 1977. Paduca in 1982. Garden Carrier in 1981. LOOP in 1978. And PILE Capsule in 1978. Some of these were used, some of them were not, but you did not certify any of them that DOE sent over. Correct?

Mr. Stello. I would need to confirm that for the record. My memory is not good enough to say that I can recall each and every one of those cases. My understanding is that we had not certified a number of them. Whether your list is all, or complete, I do not know offhand. I would be happy to submit that for the record.

[The following information was subsequently received for the record:]

At the hearing before the Subcommittee on Surface Transportation, Senate Committee on Commerce, Science and Transportation held on May 12, 1987, a question was raised with respect to Department of Energy (DOE) applications for package design approvals submitted to the NRC and later withdrawn.

By letters dated May 31, 1983, January 22, 1985, and January 5, 1987, the DOE cancelled or stated that they no longer intended to pursue NRC certification for the following designs:

DOE Certificate No. and Model No.
4960: LLD-1.
5097: 44.
5170.
5467.
5469: HNPF.
5608: BR-63-0101.
5645: AL/5645
5753: ORNL Loop.
5885: FRFE.
5907: ORNL In-pile.
6088: Garden Carrier No. 2.
6104: ANL-390.
6115 (amendment): R1010-0032.
6345: ANL-402-SPM/403-SPM.
6421: AL/6421.
6495: Paducah Cask.
9931: C47H, C47V.

For each of the above package designs, additional information had been requested from DOE. The additional information would be required to demonstrate that the design meets the requirements of 10 CFR Part 71. This included:

Complete drawings to identify the design.
Evaluation of the effects of the 30-foot drop test on the package.
Evaluation of the effects of the puncture test on the package.
Evaluation of the effects of internal gas generation on the containment system.
Evaluate buckling and brittle fracture of the containment system.
Establish specific containment criteria for the design.
Evaluation of the containment system to normal and accident conditions.

Evaluate criticality analysis for specified loadings.

Procedures concerning the operating, acceptance, and maintenance programs for the design.

Senator ADAMS. I would appreciate your submitting it for the record, because I just want any of you to say, any way you want to say it, in your own words, since I have questioned you sharply on it, that this is a self-regulating system done by the shipper who has an interest in production and movement of it, and all the rest of this is subject to waiver, exemption, and has not been cleared.

We are now about to launch into a new, big program in 1988 of moving transuranic wastes into WIPP, and are setting up to move into a monitored retrievable storage, and later into a repository, and I think the system stinks.

Now you tell me why there should not be somebody else looking at who is shipping this? In other words, an independent agency that cannot be moved around, cannot be waived, that really stands up for transport.

Ms. Douglass?

Ms. DOUGLASS. There may be a slight misunderstanding here. I just want to clear this up. There are three situations in which the Department of Energy moves these nuclear materials.

First of all, they will contract with a commercial carrier to move these shipments. It is up to the Department of Energy, but if they do that, for example with Brookhaven or with possibly the WIPP shipments, they will hire a contract carrier. Under those situations, the Department of Energy is required to meet either the NRC standard or an equivalent level of safety.

Senator ADAMS. But they decide that.

Ms. DOUGLASS. They decide that, but they have to inform the Department of Transportation. We discussed these matters with the Nuclear Regulatory Commission. We ask for information. And if we do not feel they have met an equivalent level of safety, we will notify them and we have done that.

One example was MH-1A Cask which was going to be used for the Brookhaven shipments. We did not feel that it met an equivalent level of safety. So we wrote to the Department of Energy so stating that. That is one situation.

Senator ADAMS. You sent them a letter?

Ms. DOUGLASS. Yes.

Senator ADAMS. And they state that. Now if they decide under the regulation that they do not like your letter, it is my understanding that they mark it, and under section (d) they send it.

Ms. DOUGLASS. Well, that could be true.

Senator ADAMS. I am not saying you do not send the letter. But if they do not like it, it goes.

Ms. DOUGLASS. I have not known them to do that.

Senator ADAMS. Well, do you know? That is my question. Do you have any idea where and what they are shipping, if they decided that they want to go ahead and ship it and use the exemptions and the waivers? You would really have no way of knowing, or authority under your own regulations, do you?

Ms. DOUGLASS. We do not have any authority in that regard.

Senator ADAMS. That is right, you do not.

Ms. DOUGLASS. You are right.

Senator **Adams**. Thank you, Mr. Chairman. I took too much time.

Senator **Exon**. Thank you. We will have a second round.

Senator Danforth.

Senator **Danforth**. Mr. Chairman, thank you very much.

Cindy, welcome back to the Commerce Committee.

Ms. **Douglass**. Thank you.

Senator **Adams**. Sorry about that, Cindy.

Senator **Danforth**. Let me ask you this, first. We have with us today the Department of Transportation, the Department of Energy, the Nuclear Regulatory Commission. The Department of Defense is not here today. They have a part in this action, though, do they not? I am told that there are over 650—this is from the book put out by the Office of Technology Assessment—there are over 650 additional State and local laws that have been enacted trying to control or ban the movement of radioactive wastes.

Among the three Departments or Agencies now before us, and the Department of Defense, and the 650 State and local laws, is this a situation where the more agencies involved and the more laws involved, the safer we should feel? Or is this a case in which there are so many cooks messing around with the broth that the broth is not what it should be?

Ms. **Douglass**. Most of the regulations regarding, for example, the package, communications, safeguards, and emergency response informational material, those types of regulations, at the State and local level are preempted under the Hazardous Materials Transportation Act.

We think it makes a better regulatory system if we have uniformity. We think that that enhances safety.

Now with respect to other aspects such as inspection of a truck and routing and other escorts and that sort of thing, we do feel that States do have an interest there and that they can do that consistently with the Hazardous Materials Transportation Act.

Senator **Danforth**. In your experience, is not the basic position of State and local officials "do not send it through our area"?

Ms. **Douglass**. Yes. That would basically be the position.

Senator **Danforth**. So when Senator Proxmire says that State and local officials should be notified, basically what that notification will yield is that it "take it somewhere else," right?

Ms. **Douglass**. Yes.

Senator **Danforth**. Do not send it here.

Ms. **Douglass**. When asked by States such as in the New York City situation, we have determined that a ban on transportation is inconsistent with the Hazardous Materials Transportation Act and would be preempted.

Senator **Danforth**. But more generally, that is the response you are going to get from local officials, right?

Ms. **Douglass**. Yes.

Senator **Danforth**. I mean, there are very few town meetings that a local official would hold where people would show up by the hundreds saying "well, it is all right with me if you send nuclear material through our community."

Ms. **Douglass**. Absolutely.

Senator **Danforth**. Right?

Ms. **Douglass**. Absolutely.

Senator DANFORTH. It is very volatile. So when people suggest that there should be notification, it may be fine to give notification, but basically what you are going to get is an uproar. Correct?

Ms. DOUGLASS. Yes. That is what we have found.

Senator DANFORTH. All right. Now Mr. Stello testified, and I have seen this also in the OTA material, that there are some 2.8 million packages of radioactive material transported each year.

You say, Mr. Stello, that a lot of those are very small amounts. But my question is, are all these trips necessary? I mean, obviously if we are thinking in terms of safety, the more shipment there is, the more movement there is, the greater the likelihood that something will go wrong. Are all these trips necessary? 2.8 million shipments creates a mental image of nuclear materials darting around the country with amazing speed. Is this all necessary?

Mr. STELLO. Well, I think the number you are referring to that I used was the number of packages that are shipped. More than one package is shipped——

Senator DANFORTH. Oh, Okay. I am sorry. Strike it. There are 2.8 million packages, and 2 million shipments each year.

Mr. STELLO. Right. Do you think that 2 million shipments is a necessary amount? Or is there some way to cut back on the number of shipments?

There is an awful lot of activity going on today which would reduce the volume, and hence the number of packages, and hopefully reduce the number of shipments, but I do not think it is going to change significantly.

Senator DANFORTH. The impression that I get, just a lay impression, is that we have a lot of shipments and a lot of agencies and a lot of laws and a lot of regulations, and maybe not too much order or discipline.

Mr. STELLO. I do not know that I want to debate your observations, but the number of people that use radioactive materials is also very large.

Senator DANFORTH. The number of what?

Mr. STELLO. The number of people using it. It is used in many hospitals, and research institutes, and laboratories all over the country which are then, by definition, needing to dispose of the waste. Many of the hospitals are using the materials in such a way that I cannot see that they can really do a great deal.

There is more that can be done, and we are looking at ways to compact and reduce the amount of material that needs to be shipped; but it is not my judgment at the moment that we are going to do anything to change that in any substantial manner.

Senator DANFORTH. You do not know how to reduce that. Well, does anyone here feel that there are too many agencies involved in this operation?

Mr. STELLO. Well, I will speak for myself. Our relationship with the Department of Transportation has been excellent. We have never had any real difficulty. Everything I have seen, the system has been working.

Senator DANFORTH. How about you, Ms. Lytle? Do we have about the optimum number of agencies here? Or should we maybe add some more?

Or maybe subtract some?

Ms. LYTLE. I think we have been working very well with the other agencies. Of course we have, as was pointed out by the Senator, a special role as a shipper, as well as being part of the family of Federal agencies interested in transportation. We have worked very cooperatively with the other agencies.

Senator DANFORTH. No problem?

Ms. LYTLE. We have not had any significant problem. We are working together with them well.

Senator DANFORTH. Okay. I do have a couple more questions, but there will be another round?

Senator EXON. There will be another round.

Mr. STELLO. Senator, if I may, Mr. Chairman?

Senator EXON. Go ahead.

Mr. STELLO. I would give you, and I was searching for the number, 62 percent of those shipments are for medical purposes. That is why I said I did not think there was a great deal that one would finally accomplish in reducing that number, because there clearly is a need for that service.

Senator EXON. Let us get down to a very practical case. It may not be tremendously important in the overall scheme, but I think it might have something to do with the concern that is out there in America today.

Do any of you have any first-hand knowledge of the controversy that arose last year in Nebraska when Governor Kerrey stopped a nuclear disposal train before it got to Nebraska's borders for the reason that the State had not been notified by the proper agency as promised, and is that an aberration? Or does that happen quite frequently? Or was the Governor misinformed for the action that he took? Do any of you know anything about that case?

Ms. LYTLE. Senator, I must admit to first-hand knowledge of that particular case.

Senator EXON. I thought you might have some.

Ms. LYTLE. Yes, sir, you are correct. It was very unfortunate that it worked out in such a way that the Governor felt he had not been properly notified. We checked immediately on that when the situation developed that you described in your opening remarks, and we were very concerned that perhaps something had gone wrong with the system, because we had done a lot of planning ahead of time to try to avoid any kind of situation like that.

As I understand it, what happened was that we notified the individual who was called the Governor's "designee." There is an official list that is maintained for the purpose of notification in these kind of cases. Our officials in charge of notification called an individual in the State structure who was listed as the Governor's designee.

Somehow the information did not get to the correct person, and apparently did not get to the Governor, and we regret that it did work that way. We went back, went over our procedures, and told our officials that they had to doublecheck, to go through their checklists to make a record of everyone that they contacted in each State. I believe that this will be greatly improved now that we have gone to the standard seven-day written prenotification. I think we will avoid the possibility of this kind of thing happening.

Senator EXON. So what you are saying then, there was maybe a breakdown in communications in this one instance?

Ms. LYTLE. Yes, sir.

Senator EXON. Have you had other similar incidents around the country? Or is Nebraska the only one that has stopped a train for the reasons that the Governor of Nebraska outlined?

Ms. LYTLE. That was one of the more exciting nights of my life when I heard that that had happened. No, sir, we have not had that in the other States.

Senator EXON. Let me ask a question of all three of you, to follow up on the line of questioning by Senator Adams and Senator Danforth.

As I understand it, DOT regulations require that containers used by the Department of Energy to be equivalent, to those certified by the Nuclear Regulatory Commission. Is there any reason why the Department of Energy should not just be required to use NRC-certified containers, rather than using them on an equivalent standard?

The question that comes to my mind is, does the DOT have the expertise to make the current equivalency determination that would obviously be necessary to carry out the regulation as it now stands?

Ms. DOUGLASS. The rationale for the policy is that under our memorandum of understanding with the NRC we wanted to split up the expertise.

Senator EXON. You want to "split up" the expertise?

Ms. DOUGLASS. Yes.

Senator EXON. What do you mean by that?

Ms. DOUGLASS. We cannot afford to have duplicative people in the government who have the high level of skill that is required for the packaging. So we wanted to basically split that up.

The Nuclear Regulatory Commission certifies the high-level packages. Now the Department of Energy back in the 1970s came to us and said, "we have the ability, the same ability the NRC has, because of our responsibilities as shippers and also under the Atomic Energy Act, we have the same expertise, so we ought to be able to self-certify."

So we said, "we are not going to let you completely self-certify. We are going to say you can self-certify, but you have to certify that you have met an equivalent level of safety as the NRC standard." So that was the policy behind having two Federal agencies who both have expertise in high-level packagings. And it is our feeling that we have the basic expertise in the Department of Transportation to review the basis for the Department of Energy's self-certification.

Ms. LYTLE. Senator, if I might add——

[The buzzer sounds.]

Senator EXON. Do not pay any attention to that. Go right ahead.

Ms. LYTLE [continuing]. To Ms. Douglass' comments on that, our certification process in the Department has been greatly strengthened over the last year. We have an independent group that does the certification.

You mentioned the equivalence to the NRC's standards. The DOE certification office has been working closely with the NRC to make sure that these systems truly are equivalent, and that they are using the same technical standards, like the computer codes and so forth, that the NRC uses in their review. This organization is now doing a very rigorous and a very strict review of the packages within the agency. I will provide more information for the record.[1]

Ms. DOUGLASS. And that whole process has been worked out with our people in the Research and Special Programs Administration, and as I understand it with the NRC. So we do feel comfortable with your process.

Senator EXON. Mr. Stello, is your agency satisfied with what has been described to us by the other two agencies?

Mr. STELLO. Well, my understanding is the Atomic Energy Act specifically gave that authority to DOE, and they are not required to come to the NRC for licensing and certification of those containers.

The law would clearly have to be changed in order for us to have the authority to regulate them.

Senator EXON. I guess what you are saying is it is not your responsibility; is that right?

Mr. STELLO. We do not have the authority to do it, and we need a change in the law to cause us to do that. Obviously if the law was changed, we would do it, but until such time we do not have the authority to regulate the DOE containers.

Senator EXON. Has your agency been asked for counsel and advice by the other two agencies in this area?

Mr. STELLO. Yes. We have worked together on technical issues but not with respect to any question of stepping in and "regulating", that is, not permitting the use of any container unless it is certified.

Senator EXON. I do not mean regulating.

Mr. STELLO. We consult with each other in the technical issues, share knowledge, experience and expertise, yes.

Senator EXON. Would you say that from what information that your agency has with what the other two agencies here represented are doing that you are generally satisfied with their standard?

Mr. STELLO. I guess I would need to look at the answer to Senator Adams' question of the issues that have been raised with respect to the previous casks that we have had and the kinds of questions. There were clearly issues that were before us that did not get resolved; that is, that they were not eventually licensed.

I know of no reason to question the technical competence of the people at DOE. They have, in fact, the best technical expertise in this regard in the country, so they certainly are qualified. There is absolutely no reservation in my mind that they are qualified to do it. Whether their standards, in fact, what they have been doing are comparable or directly relatable to what we do is open to some question in my mind, and that is what I need to reserve on.

Senator EXON. My time is up.

Senator Adams.

Senator ADAMS. Thank you, Mr. Chairman.

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[1] See insert on p. 232.

We are really dealing with the basic question, to which Senator Danforth alluded, that we are about to launch into a program here of shipping a lot more very highly radioactive waste a lot more miles.

Ms. Lytle, I want to ask this question. Let us make it practical. In your statement you say that DOE is responsible for emergency response and that you can mobilize your team in two hours. I assume it takes some time after you mobilize them to send them to it.

I asked you before about the TRUPACT package which you have been using, the TRUPACT package that you ought to use. That is a Type B package but it collapsed in a fire test in 35 minutes.

Now, what is your emergency response team going to do in this self-certified package when after 35 minutes it is gone and your team will not assemble for another hour and a half, and there are a lot of people out there in the local area, generally in the transportation field as opposed to within the nuclear industry itself or within the immediate vicinity, are dealing with a lot of other things, potentially a propane fire, potentially a number of other explosive materials that may be in the same wreck? You do not know what truck is going to hit what truck and what all is on the manifest.

Now, I do not see how you have an emergency response system if casks that you are proposing, and that is why I read the list and so on, can collapse in a fire in, say, 35 minutes and your response team will not be there for hours.

Ms. LYTLE. Senator, in reference to the test that was done on the TRUPACT package, the package door was redesigned after that test because we were not satisfied with the results of the test. That was not a satisfactory test to us in that it failed after 35 minutes.

Senator ADAMS. What I am worried about is we do not know about all these tests. This is all internalized, and what I am searching for is I would like somebody in the public view, independent of the shipper who is DOE and has an interest in it moving, being in charge, if we are going to move this stuff at all.

I have some question, just as Senator Danforth mentioned, whether we ought to be moving it all over. We may be better on site with casks than we are shipping it. We are going in 1988 to WIPP and sometime within the next six to eight years after that to an MRS, if this system goes under your department.

We do not know about these casks. What assurance are you going to give me and the Committee that your response time is anywhere near adequate for your casks and all of these things you are self-certifying?

Ms. LYTLE. We must show that these casks, whether it is TRUPACT or another cask, meet the performance requirements——

Senator ADAMS. Show to whom?

Ms. LYTLE. First, we must show it internally. I agree with you. This is an internal review process at first, but all of these documents that are used for the internal review process, all of the scientific work that is done, all the testing, all the results of the testing, will be available to the public for review.

Senator ADAMS. Right, and you send them over to the NRC. That is why I asked Mr. Stello. You have all these casks that you sent over there with HFBR. There are over 100 shipments made, and I can run down the others, and I will be happy to give you this list. They were all used, and not one of them had been NRC approved.

So what I am saying and asking all at the same time is you do all of this yourself.

Ms. LYTLE. We do send a lot of requests to the NRC to certify——

Senator ADAMS. They turn you down.

Ms. LYTLE. Not always.

I do acknowledge that I am not familiar with those specific cases; however, I have been told that there were a number of such cases, and I accept your number of nine and the fact that they were sent to the NRC for certification and there were questions asked about them. I will look into the matter.

Most of these were quite a long time ago.

Senator ADAMS. Would you submit to the Committee how many casks you sent over that ever were approved?

Ms. LYTLE. Certainly.

[The following information was subsequently received for the record:]

The total number of DOE containers that are currently approved by NRC and having an active NRC certificate is 57. This does not include those casks that were previously approved by NRC but have now been removed from service. The NRC certificates associated with DOE containers generally fall into two basic categories—the DOE in general, and the DOE's Division of Naval Reactors. The DOE, excluding Naval Reactors, presently has 31 packages which have active NCR certificates of compliance. The Division of Naval Reactors have 26 packages.

Senator ADAMS. I would appreciate that.

The final thing is do you have any position on the type and routing which you control of hazardous wastes of where you are going to move all this stuff from the East Coast to the West Coast to these two sites? This goes to Senator Exon's question and what Senator Danforth brought up. Do you have a plan?

Ms. LYTLE. Senator, let me clarify. Are you talking about——

Senator ADAMS. I am talking about, first, the transuranic wastes which are going to WIPP, and second, all the spent wastes that are going to be accumulated out of all the reactors which are basically in the east and are either going to Tennessee first, I guess over Senator Gore's dead body, he says, or out to one of three western sites.

Do you have a plan for meeting this problem?

Ms. LYTLE. Senator, let me, if I may, separate your question into two parts. I will address the issue of the WIPP shipments and ask Mr. Barrett to address the question on the Nuclear Waste Policy Act shipment.

On the WIPP shipments, we have started to work with the states to discuss routing. As has been presented here, the states have a very special role in the routing situation for highway shipments. They can designate preferred alternate routes.

What we have done is to start to talk to the States about what we see as the probable route if using the basic DOT directive of interstate highways. We have presented or are in the process of presenting those pieces of information to the state.

Then we expect the State, in an interactive process, will tell us whether they wish to designate a preferred alternative route. We have offered to assist in running risk analysis models and so forth if they want us to to help them in that decision.

Mr. Barrett. Regarding the civilian waste that we will be moving at the end of the 1990s to hopefully an MRS in Tennessee and eventually to one of the three repository sites, there we are also working with the routing issue similar to what is being done in WIPP. We have a little longer time.

We have published a document known as our Transportation Institutional Plan, in which routing is one of the preeminent issues that we are addressing. We are working with consortiums of regional groups of states on how best to accomplish the delicate balance of interest among the States, the local governments and the Federal establishment on determining what are the appropriate routes to use.

We have made the policy decision that we will use only NRC-certified containers because we are transporting basically from NRC-licensed reactors to an NWPA facility which is also licensed by the NRC. So we are using the NRC-certified containers. We feel there is no technical or safety difference between an NRC-certified one or a DOE-certified one, but it just clears up any potential confusion if there is a difference by submitting our containers to NRC certification.

Senator Adams. Mr. Barrett, what bothers me is you have the State of New Mexico saying they do not like TRUPACT, and I do not know whether you have made a new TRUPACT or an old TRUPACT. They are mad about it.

You have the State of Nebraska and the State of Colorado fighting lawsuits against the site selection guidelines that you put out regarding where you are going to send these things.

I accept what you say as your statement, but I do not see that it is actually happening so far as the states and the transport system that is involved with them are concerned. That bothers me with more of these shipments that you are going to make.

Thank you, Mr. Chairman.

Senator Exon. Thank you.

Senator Danforth, and then we will go to the next panel. I have one more question after that. Go ahead, Senator.

Senator Danforth. I would like to ask two questions, both about the Three Mile Island shipments or related shipments, similar shipments, in the future.

Mr. Chairman, I understand there are other experts in the room who may want to answer this. I do not know.

Can anybody explain to me why a shipment of Three Mile Island waste going from Pennsylvania to Idaho should be routed through St. Louis and Kansas City? What conceivable reason is there to route Three Mile Island shipments through two large cities that are hardly, as the crow flies, on the way?

Senator Exon. The obvious answer is we did not want them to go through Nebraska. Other than that, I do not know what the answer is.

Senator Danforth. That is a logical explanation.

Why is this? It would seem to me that we should be trying to avoid sending these shipments through large cities, and we have found two large cities and they are both in my state. Why is that?

Ms. LYTLE. I would like to address your question of the specific issue of the Three Mile Island shipment because that was the Department of Energy's shipment.

What we did in choosing the rail route was to use the following criteria: First, the best quality track; and then to also minimize the time in transit; to minimize the number of switches, because that presents an opportunity for problems; and to avoid population density wherever possible.

So when it all works out using the start point and the end point and putting those criteria on the shipments, it does come out that they do go through several large cities, and two of them were Kansas City and St. Louis.

Senator DANFORTH. It seems to me that on the last criterion which was avoiding population centers you have made a beeline for two population centers that are—the logic says that Pennsylvania is here and Idaho is here, and St. Louis and Kansas City are down here somewhere.

Ms. LYTLE. I think it is a matter, however, of the quality of the track and the switching that you have to do in order to go another route. There are other ways——

Senator DANFORTH. You mean the track is no good in Nebraska?

Really, it just seems very, very strange to me that you should send this stuff through St. Louis and Kansas City, two population centers.

Ms. LYTLE. It was a very difficult issue because we do fully understand the concern about routing. When we put together this routing plan for the Three Mile Island shipments we did talk to the railroads and we discussed with them the issue of safety and the quality of the track. They agreed that this was a good way to ship.

Now, I agree that this is a very complex issue of how much weight to give the criterion of quality of track versus how much weight to give, for instance, going through a densely populated area.

Senator DANFORTH. I agree with one thing that Senator Proxmire said. I just do not think that Congress is a very good regulator. I do not think drawing detailed regulations is the kind of thing we should be getting into.

It really struck me and does strike me as being very strange that this decision was made. Is this absolutely determined for the future of Three Mile Island shipments, that they are all going to go through St. Louis and Kansas City?

Ms. LYTLE. The way we are planning it now, we do not plan any changes in the routes at the present time, but there could be changes.

Senator DANFORTH. Would you look at it? I see you nodding your head, but for the record would you say it in words?

Ms. LYTLE. Yes, Senator, for the record we will review the routing. I must be honest with you. It was a very great struggle to come up with a good route the first time, and I do not anticipate that we are going to come up with an answer that is different the second time. I will, however, do it.

[The following information was subsequently received for the record:]

At the request of Senator Danforth, the Department of Energy has again reviewed the route selection progress for spent fuel shipments from Three-Mile Island to the Idaho National Engineering Laboratory. The Department continues to believe the existing route is prudent, safe, and poses no threat to people or the environment.

While routing of radioactive shipments is a safety consideration, it is quite secondary to the package integrity which is by far the most important factor in providing public health and safety. The massive casks used to ship spent nuclear fuel are designed to assure the contents will be contained, even in an extraordinary transportation accident. Repeatedly, rigorous design, analysis, and testing programs demonstrate these casks do indeed protect the public health and safety.

A primary consideration in rail route selection is the carrier serving the shipment origin and destination. The Three-Mile Island plant near Harrisburg, Pennsylvania, is served only by Consolidated Rail Corporation (CONRAIL). The Department's Idaho facility is served only by the Union Pacific Railroad System. These two carriers were asked to identify a safe, efficient, and expeditious route for the proposed shipments. It is important to understand that rail carriers are in the best position to determine routing for all hazardous cargo. Their recommendation was to use the current route.

We have again reviewed some of the other mainline routes. Typically, these routes are longer, involve more carriers and switches, and travel through larger population centers. The current route is a mainline route across the United States. The track is excellent and well maintained. The switch from Conrail to Union Pacific takes place in East St. Louis, Illinois. It continues to meet our objectives of service that is safe and efficient . There are few interchanges and switches and overall transit time is reduced. Again, while these routing factors are important considerations, it is ultimately the extraordinary package that protects the public and the environment.

Senator DANFORTH. Thank you.

Now, one other question on the matter of dedicated trains versus mixed trains for the Three Mile Island shipments. So far the trains have been dedicated, correct?

Ms. LYTLE. Yes.

Senator DANFORTH. Will they continue to be dedicated?

Ms. LYTLE. Our current plan is to continue to use the dedicated trains, but our position is that these dedicated trains are unnecessary, and we may come to a situation in the future where we do reconsider that decision.

Senator DANFORTH. I would think that it is clear that dedicated trains are necessary; otherwise, do you not have cars being switched around in railyards and so on? You do not want that, do you?

Ms. LYTLE. The kind of packaging that we use to transport this material is the first line of defense. That is why we can say with confidence that regardless of whether they are on a special train or they are on a regular cargo train, the package is going to protect this material.

Senator DANFORTH. Your position is that it does not matter whether this is in railyards and trains are being switched around, and it does not matter if it goes through St. Louis or Kansas City or anywhere else because you have this invulnerable cask?

Ms. LYTLE. We do place our first line of defense in the cask. That is correct. We are concerned about the other aspects of transportation. That is why when we looked at the routing we did look at the issue of time in transit and the amount of switching.

If the railroad were to propose to us a type of service that would cause the train to stop every five minutes and go through all these switches, we would have to object to that and work something out.

Senator DANFORTH. Short of legislating certains in the area, what do you suggest that we do to prevent materials from going on mixed trains?

I am asking whether we should think of legislation to specifically provide that dedicated trains would be required for Three Mile Island and similar shipments of highly radioactive nuclear material.

Ms. LYTLE. It puts me in a difficult position because I think we have a difference of opinion about whether it is necessary to have special trains. From our standpoint, looking at it perhaps from a technical standpoint, and that is how we tend to look at things because we are a technical——

Senator DANFORTH. I thought you told me that the number of switches is one thing that you thought about when you picked the route.

Ms. LYTLE. Yes, Senator, we are concerned about the number of switches, but the mere fact that it is not a special train I do not think, personally, should be a reason to prohibit the use of regular train service.

Senator DANFORTH. It seems to me if you have other freight cars on the train, that means you are going to have switches.

Ms. LYTLE. That is one of the factors that needs to be considered. I agree with you.

Senator EXON. I have just one last question. First, Ms. Lytle, certainly Senator Danforth has a right to make any suggestions. But I hope you will not waste too much time on that study that he has asked.

Maybe none of you have the answer to this question. But this whole matter of disposal properly of nuclear waste seems to be an avalanche just coming down on the Congress.

I do not believe we have begun to understand the total problems that we have. If I understand it correctly, we have many places in the United States where nuclear waste is not being properly stored at the present time.

And therefore, naturally, there's a push to get it moved out of places.

I have been advised by people I have a lot of confidence in that at the present time we have done such a poor job of managing the present storage sites, in many stances, that we are facing billions and billions of dollars in the future for cleanup of the present holding sites in many areas of the United States.

Now since you people deal with the people that produce this nuclear waste, and work with them in moving it to some supposedly safe storage area, can you shed any light on that, as a side issue, as to whether or not my fears about this avalanche of a problem is coming down on us, and the safe movement of this material, as important as it is, might not be nearly the problem that we are going to experience as a Congress in the years ahead, and you as administrators.

Is the picture as bleak as I am being told it is?

Ms. LYTLE. I think I would like to answer that from my standpoint. I came into the defense waste program about a year and a half ago. I have been learning a great deal about all aspects of the system. The one thing that impressed me absolutely about everyone who is working on this problem is that they are dedicated to do it right. These people may properly, as Senator Adams said, be accused of being the program managers. Yes, they are. But every single one of them that I have met is absolutely committed to doing this right, and to protecting the public and the environment.

I feel that we will have to move some of the waste. I think for instance the stored transuranic waste. The Senator from Idaho is not here, but I think they may have a strong interest in the waste being moved to the WIPP site.

There are many competing interests, but in all respects, everyone is dedicated to doing the movement correctly, and in cooperation with the States through whose jurisdictions these materials have to move.

Senator EXON. Well, Ms. Lytle, that was not responsive to my question. And maybe my question was not clear. And maybe you are not in a position to answer it. If you are, I would understand that.

I am talking about the avalanche of problems that I think, and have been advised, are about to hit us with regard to billions and billions of dollars that we are going to have to expend to clean up the present waste sites that we have, even if all the waste were moved tomorrow across Nebraska or St. Louis to some safe site.

Do you have any knowledge on that, and is that an avalanche that is ready to come on us, in your opinion?

Ms. LYTLE. Senator, I do believe you are absolutely correct, that that issue is really one that is going to be a very serious one for the Congress to consider.

Because we are looking at the issue of cleanup at these sites, and the numbers, the dollars, that are being talked about in terms of the need to clean up these sites are in the billions.

I think you are absolutely correct, that this is something that is truly a proper issue for the Congress to review as to how the nation is going to be able to address this cleanup. I agree with you completely.

Senator EXON. Thank you. Ms. Douglass?

Ms. DOUGLASS. Well, I do not know, because we are involved in the transportation. But I can look into that. I have some ideas about people we might check with.

[The following information was subsequently received for the record:]

We do agree with your assessment that the Nation is facing significant decommissioning costs involving approximately 100 licensed nuclear facilities. For example, our review of testimony by other federal agencies last July, before the House Science and Technology Committee, indicates that the current (1986) estimated cost of decommissioning the Shippingport, Pennsylvania, facility is $100 million. The cost of decommissioning larger and more sophisticated nuclear facilities was estimated at $130 million per facility.

For the last year and a half we have been working with the Department of Energy (DOE) relative to the decommissioning of the nuclear power plant in Shippingport. Although the decommissioning of that facility is the responsibility of DOE, we have had several planning discussions with them involving the radioactive components that will have to be transported from the plant to a disposal facility.

As part of its comprehensive planning process, DOE is examining the implications of various routes and has invited DOT (RSPA and the Coast Guard) to discuss the subject with them later this Spring. We will continue to cooperate with DOE in developing a transportation plan for the Shippingport facility, as well as other facilities, as the program evolves.

Senator Exon. Thank you. I would appreciate your answers for the record.

Mr. Stello?

Mr. Stello. With respect to the problems associated with the disposal of nuclear waste, Congress certainly has had and will continue to have a difficult time dealing with this issue.

I was heartened by the Nuclear Waste Policy Act of 1982, which I think at least broke ice. There is a significant effort to make that happen on the part of commitment of Congress and the technical community.

I think the technology is there. It is going to be a difficult problem for Congress to deal with.

Of course, there is a broader problem that nuclear waste that I think was encompassed within your question: The superfund legislation, for example, continues to be a major issue with cleaning up toxic sites other than nuclear sites throughout the country, as well as sites that were part of programs of the Atomic Energy Commission as far back as the Manhattan Project.

I think we have made a lot of progress, and the legislation Congress has passed has been a very, very good first step. And I think it is important for all of us to have the resolve to make this all happen now.

Senator Exon. Thank you, Mr. Stello.

My information was with regard to nuclear waste specifically, and not other types of waste.

At any rate, it has been a long session. We all appreciate very much your frankness in answering our questions, and helping us deal with this major problem.

So we thank you, Mr. Stello. We thank you, Ms. Douglass, and we thank you. Ms. Lytle.

Senator Adams. I do not have a question, but I would say to Ms. Douglass, if you want to start examining this, you can look at that reactor that has completed its useful life in Ohio, and they are going to ship through the Panama Canal and bury in the Hanford reservation.

That will give you something to think about.

Senator Exon. The next panel, Mr. David Woodbury, environmental specialist, Bureau of Environment, Analysis and Review, Department of Natural Resources; Mr. Robert Neill, director, environment evaluation group, Santa Fe, New Mexico; Mr. Robert E. Gordon, on behalf of Mr. Terry L. Novak, city manager, Spokane, Washington.

We would invite you to come forward at this time. We appreciate your patience, apologize for the delay, and without holding things up further, I will recognize Mr. David Woodbury as the first panelist on panel two.

Mr. Woodbury, would you proceed please?

STATEMENTS OF DAVID WOODBURY, ENVIRONMENTAL SPECIALIST, BUREAU OF ENVIRONMENT, ANALYSIS AND REVIEW, WISCONSIN DEPARTMENT OF NATURAL RESOURCES; ROBERT NEILL, DIRECTOR, ENVIRONMENTAL EVALUATION GROUP, SANTA FE, NM; AND ROBERT E. GORDON, ON BEHALF OF THE CITY MANAGER, SPOKANE, WA

Mr. WOODBURY. Thank you, Senator.

The Wisconsin Department of Natural Resources believes that there is a need for a uniform regulatory scheme on hazardous materials transportation which includes state and tribal participation and ensures protection for the environment.

Currently, the regulatory scheme is unacceptable. As a department, we have been concerned about the transportation of all hazardous materials, and particularly, about the shipment of spent nuclear fuel.

That is because our department has been mandated with the protection of the environment, and that is why we are concerned about chemical releases.

Because of that, there is a Wisconsin statute which provides for a spill prevention mitigation plan to be submitted to my department, upon request, by the shipper or an individual who has possession of the material.

Senator Proxmire has outlined what our concerns were with spent nuclear fuel shipments, and in particular, the series of shipments that came from Monticello, Minnesota, to Morris, Illinois.

This particular corridor involved 210 miles in Wisconsin, of which 190 miles was within the Upper Mississippi River natural wildlife refuge. That is why we were concerned, and that is why we requested a spill mitigation and prevention plan.

Now such a plan outlines what procedures should take place in the event of a release of material, of any material. Such requirements would be a list of equipment and an inventory list; decontamination procedures; emergency response and mitigation procedures; and the development of coordination between state and local entities.

We do not consider—we do not need—I'm sorry, we do not question the need for a set of uniform Federal regulations which address the safety of transporting hazardous materials, especially high level radioactive waste.

However, we believe there is a need to enhance those regulations to accommodate state and regional concerns.

The reason that we went to Senator Proxmire and provided information, the bill that he had talked about, was that a lower court judge had ruled us inconsistent in requiring a spill mitigation and prevention plan, which we will refer to as a contingency plan.

It seems that with Title III of superfund amendments and reauthorization acts, which mandates that State and local governments and industries must be involved in emergency response and contingency planning for a particular list of ultrahazardous materials, that the requirements of SARA are a logical step toward a comprehensive hazardous materials program.

And because of that, we think expanded participation mandated by SARA should also include, or would be consistent in involvement with radioactive waste shipments.

This can be done by amendment of Hazardous Materials Transportation Act to provide that either the United States Department of Transportation or the Nuclear Regulatory Commission regulations for radioactive waste transportation include a license procedure.

Specifically, we believe Federal licensing requirements for radioactive waste shipments should include: an emergency response and mitigation plan; a hazard risk assessment of the corridor assessing the physical impacts that affect the risk of transporting in that corridor; and environmental impact analysis; an analysis of alternate corridor, including a comparison of risks and hazards; evidence that a notice of application has been sent to the corridor States and affected Indian tribes; and that such States and Indian tribes have been consulted on corridor selection; sufficient information to determine the need for the shipment of wastes or fuel; and proof of financial liability.

And I had previously talked about a spill prevention mitigation plan. What we think should be outlined in such a plan are: emergency tactics for investigation and monitoring; emergency medical and hospital procedures; containment and decontamination procedures for an accidental release of radioactive waste to the environment; decontamination procedures for public and emergency response personnel; cleanup procedures; a coordinated response procedure with affected States, tribal and local entities; and a resource identification and accessibility plan.

I also refer to an environmental analysis which should be conducted and should be the basis for the decision to license the shipper.

Such an analysis should include, at a minimum, a comparison of the relative hazards and risks of alternative routes and modes; an evaluation of the emergency preparedness of States, local communities, and affected Indian tribes along the selected corridor; a description of the environmental features, both human and natural, along the selected corridor; a description of the condition of the physical features along the corridor which might hinder recovery, containment and cleanup of the accident involved in the transportation of waste; an evaluation of environmental and human effects in the case of released material.

Also, this should be before a license is granted, these things have to be considered. We also believe that the Hazardous Materials Transportation Act should allow for States to implement inspection and surveillance and enforcement programs; establish fees designed to pay the costs of transportation safety programs; require accident and incident reporting; require advance notification of shipments; designate alternative routes in special circumstances such as an emergency; identify safe havens; and specify driver certification requirements.

I see my time is up. So I appreciate your interest in at least our State's perspective on the need for a comprehensive hazardous materials transportation safety program which includes radioactive materials, and allows for State authority, and still complies with the nationally uniform scheme of regulations.

[The statement follows:]

STATEMENT OF DAVID WOODBURY, WISCONSIN DEPARTMENT OF NATURAL RESOURCES

The Wisconsin Department of Natural Resources believes that there is a need for a uniform regulatory scheme on hazardous materials transportation which includes state and tribal participation and assures protection for the environment. We have been concerned about the transportation of all hazardous materials and particularly about the shipment of spent nuclear fuel. Wisconsin Statute provides for a Spill Prevention and Mitigation Plan (SPMP) to be submitted to DNR upon request. This plan, referred to as a contingency plan, must include: emergency response procedures to be taken in the event of a release or potential release of material including tactics for investigation and monitoring; emergency medical and hospital procedures; containment and decontamination procedures for the public and emergency response personnel; cleanup procedures; coordinated response procedures with affected state, tribal, and local entities; and resource identification and accessibility.

Since 1974 Wisconsin has experienced 474 truck shipments of spent fuel which accounts for 45% of the total of truck shipments nationally. Recently Northern States Power Corporation completed over 30 rail shipments of spent fuel. This series of shipments which began in the fall of 1984 involved 1058 spent fuel assemblies and is the largest rail shipment of commercially generated waste to date. This series of shipments emanated from Monticello, Minnesota and concluded in Morris, Illinois. The fuel assemblies are being stored until a permanent high level radioactive waste repository is in operation.

The rail corridor used included 210 miles in Wisconsin of which 190 miles is within the Upper Mississippi River National Wildlife Refuge. The corridor has more than 40 river and stream crossings and lies within 100 feet of the Mississippi River. This corridor also affects population centers. Due to the potential threat that this particular hazardous material posed if an accidental, release occurred, the Department requested that Northern State Power submit a SPMP. Negotiations on the content of the plan broke down and eventually the Department requested a permanent injunction on shipments until an acceptable plan was approved. A state circuit court judge decided that the state's efforts to require a SPMP was preempted by the Hazardous Materials Transportation Act (HMTA). The court stated "In isolation there are no doubt hundreds of detailed items not specifically addressed by federal regulations. But, generically the federal scheme preempts all areas of transportation of hazardous materials." The court also indicated that state regulations were preempted by the Atomic Energy Act, yet criticized the Department for not requesting a nonpreemption ruling under HMTA.

We do not question the need for a set of uniform federal regulations which address the safety of transporting hazardous materials, especially high level radioactive waste. However, we believe there is a need to enhance those regulations to accommodate state and regional concerns. Such enhancements should include: a requirement that a route specific analysis be performed, and planning to minimize local hazards. Specific provision for State, tribal, and local participation in radioactive waste transportation decisions need to be included in federal law.

Title III of the Superfund Amendments and Reauthorization Act (SARA) mandates that state, tribal, and local governments and industry must be involved in emergency response and contingency planning for a particular list of ultra-hazardous materials. The requirements of SARA are a logical step toward a comprehensive federal hazardous materials safety program. Because of the expanded participation mandated by SARA, state and tribal participation regulating the shipment of radioactive waste would be consistent. This can be done by amending the Hazardous Materials Transportation Act to provide that either the United States Department of Transportation or the Nuclear Regulatory Commission regulations for radioactive waste transportation include requirements for state and tribal participation, and an adequate SPMP. Specifically, we believe federal license requirements for radioactive waste shipments should include:

1. an emergency response and mitigation plan;
2. a hazard/risk assessment of the corridor assessing the physical impacts that affect the risk of transporting in that corridor;
3. an environmental impact analysis;
4. an analysis of alternate corridor including a comparison of risks and hazards;
5. evidence that a notice of application has been sent to corridor States and affected Indian tribes, and that such States and Indian tribes have been consulted on corridor selection;
6. sufficient information to determine the need for the shipment of the waste or fuel; and
7. proof of financial responsibility.

Each application for a license to transport high level radioactive waste or spent nuclear fuel must include an emergency response and mitigation plan outlining procedures to be taken in the event of a release or potential release of radioactive waste. Such procedures should include:

1. emergency tactics for investigation and monitoring;
2. emergency medical and hospital procedures;
3. containment and decontamination procedures for an accidental release of radioactive waste to the environment;
4. decontamination procedures for public and emergency response personnel;
5. cleanup procedures;
6. coordinated response procedures with affected States, tribal, and local entities; and
7. resource identification and accessibility.

Prior to issuing a license to transport high level radioactive waste or spent nuclear fuel, DOT or NRC should prepare an environmental analysis which shall include a detailed statement of the basis for the decision and the probable impacts. Such an analysis should include, at a minimum:

1. a comparison of the relative hazards and risks of alternative routes and modes;
2. an evaluation of the emergency preparedness of States, local communities, and affected Indian tribes along the selected corridor;
3. a description of the environmental features both human and natural, along with the selected corridor;
4. a description of the condition of the physical features along the corridor which might hinder recovery, containment and clean up of an accident involved in the transportation of waste; and
5. an evaluation of the environmental and human health effects of a release of high level radioactive waste during transport.

To the extent necessary to protect public health and safety and the environment, reasonable and prudent restrictions should be imposed on the shipper which would as a result of the environmental analysis, either minimize the risk of an incident or enhance the potential for containment and clean up of an incident.

If these important requirements are met, then and only then, a license should be issued.

In addition to the requirements that we feel the federal government must meet in authorizing radioactive waste transportation shipments. We also believe that the amendments to HMTA should allow the states:

1. implement inspection, surveillance and enforcement
2. establish fees designed to pay the cost of transportation safety programs;
3. require accident and incident reporting;
4. require advance notification of shipments;
5. designate alternative routes in special circumstances such as an emergency;
6. identifiy safe havens; and
7. specify driver certification requirements.

I appreciate your interest in one state's perspective on the need for a comprehensive hazardous materials transportation safety program which includes radioactive materials and allows for more state authority and still complies with a nationally uniform scheme of regulations.

Senator EXON. Mr. Woodbury, thank you. Without objection, the full text of your statement, and the statements that are going to be offered by Mr. Gordon and Mr. Neill will be entered into the record in full.

At this time I want to thank each and everyone of you, on behalf of the committee, for the extraordinary effort that you have made to come long distances to be here to help us out from the perspective of the local community.

Thank you for being here.

Mr. Neill.

Mr. NEILL. Thank you, Mr. Chairman, for the invitation to testify on the work of EEG in evaluating the adequacy of the transuranic radioactive waste shipping container to the WIPP site in New Mexico.

By way of background, EEG was established by the State in 1978 to conduct an independent technical review of the potential radiation exposure to people.

Since WIPP is exempt from NRC licensing, EEG is the only full-time review group evaluating WIPP. The transportation of radioactive waste to WIPP will require approximately 30,000 shipments of 800,000 drums and boxes through 29 different States over a 25-year period.

The WIPP shipping container is a type B system that must comply with the regulations of the Department of Transportation.

As was indicated earlier today, DOT requires type B packages to meet the NRC regulations, and also permits the Department of Energy to certify their own designs, provided they are equivalent to NRC.

Therefore, WIPP is required to meet NRC by reference.

TRUPACT–I was designed with two features that did not meet NRC's regulations. First, the 1978 design had only single containment, and not double containment, which had been required for shipments of respirable plutonium in excess of 20 curies.

Second, the waste package cavity is continuously vented through filters to the atmosphere.

These issues of noncompliance were resolved in May 1986, when the Manager of the Albuquerque Operations Office informed the State that the TRUPACT was being redesigned to meet the applicable regulations.

Subsequently, however, in February 1987, DOE Headquarters petitioned the Department of Transportation to issue a rule that would permit DOE to use the 1978 TRUPACT–I design with single containment, and the venting feature which was incorporated in 1981.

We are opposed to this petition for the following reasons. One, DOE made a commitment a year ago to meet the safety regulations, and the work is underway.

Two, the Department of Energy stated in the final environmental impact statement that they would meet the regulations of the Nuclear Regulatory Commission in the transportation of waste to WIPP.

Three, both of these regulations were issued by the NRC, and it would appear more logical to petition that agency rather than DOT.

Four, although the Department of Energy has not published their justification for the deviation from the regulations, EEG has published our analysis on the adequacy of the shipping container.

And with your permission, Mr. Chairman, we will submit that analysis for the record.

Senator EXON. Without objection, it is accepted.

Mr. NEILL. I might mention that our calculations indicate that there could be anywhere from 2 to 12 accidents during the project of WIPP that could result in releases of radioactivity, usually quite small, during the operation of the project.

Next, in an agreement with the Department of Transportation—in fact, Ms. Douglass indicated earlier today that NRC assumed the responsibility to certify type B packages. And that is the issue at hand, type B certification.

Next, DOT informed us that they have no plans to certify the type B shipping containers for WIPP. Therefore, it would appear somewhat inappropriate, if an agency has no plans to certify those shipping containers, to engage in a rulemaking procedure for type B containers to WIPP.

And last, the Department of Energy requested NRC to exempt waste from the double containment requirement for respirable plutonium back in 1982. In the rulemaking procedure that NRC engaged in, the request was rejected, and the requirement for double containment reissued in 1983.

In summary, Mr. Chairman, when a design doesn't meet standards that have been established for the protection of the public health, the design should be upgraded.

It doesn't make sense to keep the design and downgrade the standards.

Thank you.

[The statement follows:]

STATEMENT OF ROBERT H. NEILL, ENVIRONMENTAL EVALUATION GROUP, ENVIRONMENTAL IMPROVEMENT DIVISION, HEALTH AND ENVIRONMENTAL DEPARTMENT, STATE OF NEW MEXICO

Mr. Chairman: Thank you for the invitation to testify on the work of the Environmental Evaluation Group (EEG) in evaluating the adequacy of the shipping container slated to be used to transport the contact-handled transuranic (CH-TRU) radioactive waste to the Waste Isolation Pilot Plant (WIPP) site in New Mexico.

EEG

By way of background, the EEG was established in 1978 to conduct an independent technical review of the potential radiation exposure to people from the proposed WIPP Project near Carlsbad in order to protect the public health and safety and insure that there is minimal environmental degradation. The EEG is part of the Environmental Improvement Division, a component of the New Mexico Health and Environment Department—the agency charged with the primary responsibility for protecting the health of the citizens of New Mexico. EEG is composed of 8 full-time, multi-disciplinary scientists and engineers with supporting staff and is neither a proponent nor opponent of WIPP. Since WIPP is exempt from NRC licensing, EEG is the only full-time review group independently evaluating WIPP. We have published thirty-six major reports to date on site characterization, breach scenarios, transportation, monitoring and regulatory review.

The State review is funded entirely by the U.S. Department of Energy through a contract with the New Mexico Health and Environment Department.

WIPP TRANSPORTATION

WIPP is intended for the permanent disposal of 6,200,000 cubic feet of contact-handled transuranic (CH-TRU) waste and 250,000 cubic feet of remote handled transuranic (RH-TRU) waste from defense programs of the United States. TRU waste is not low level waste (LLW) which can be dispposed in shallow land burial but requires deep geological isolation similar to high level wastes. The transportation hazard is primarily associated with the inhalation of respirable sized particulates containing plutonium should an accidental airborne release occur. To provide a perspective, the inhalation by a worker of a milligram of the waste would result in the maximum allowable annual occupational exposure.

The shipping container designed to transport defense TRU waste to WIPP beginning October 1988 is a Type B packaging system called TRUPACT. Approximately 30,000 shipments will be required to transport 800,000 drums and boxes primarily by truck through 29 different states over a 25 year period.

APPLICABLE REGULATIONS

The transportation of radioactive wastes to WIPP must comply with the regulations of the U.S. Department of Transportation (49 CFR 173). The DOT requires all Type B packages to be designed and constructed to meet the applicable requirements of the U.S. Nuclear Regulatory Commission (10 CFR 71) [See 49 CFR 173.413]. The DOT regulations also permit the Department of Energy [See 49 CFR 173.7 (d)] to evaluate, approve, and certify their own packaging provided they are equivalent to the packaging standards issued by the U.S. Nuclear Regulatory Commission (10 CFR 71). Therefore, WIPP is required to meet the transportation regulations of the NRC by reference.

NON-COMPLIANCE

TRUPACT-I was designed with two features that did not meet regulations issued by the NRC in 10 CFR 71.

(1) The 1978 design had only single containment and not double containment which has been required since 1974 for most forms of radioactive material if the shipment contains more than 20 curies of plutonium [See 10 CFR 71.63 (b)]. The double containment requirement was to limit airborne releases of respirable plutonium in the event of an accident. Non-respirable plutonium was to be exempt. Since the DOE Waste Acceptance Criteria for WIPP permits up to 1% of the waste to be respirable (less than 10 micron particle size) the average shipment of 120 Ci Pu could contain up to 1.2 Ci of respirable Pu. Therefore, shipments of plutonium to WIPP are categorized as both respirable and large quantity.

In December 1979 the DOE and Sandia and specifically requested NRC to exclude shipments of plutonium contaminated solid materials from the double containment requirement. The requests to exclude waste were subsequently rejected by the NRC in its 1983 revision of 10 CFR 71.

Since the Department of Energy has the authority to issue its own regulations on the transportation of radioactive materials that are exempt from NRC licensing. DOE issued Orders in May 1981 to staff and contractors involved with the shipment of radioactive material to meet the NRC regulations for double containment as well as all other requirements contained in NRC's regulations 10 CFR 71.31-71.42 "that as presently set forth provide a reasonable set of technical standards" (5480.1 Chapter 3 May, 1981). There were no caveats or exemption mechanisms identified in the DOE Orders. Thus the design was then in apparent violation of the Departments own Orders

In August 1981 a peer review of the TRUPACT preliminary design was convened by Sandia. The peer review committee's report, published in June 1982, recognized that the design failed to meet NRC regulations and stated as follows: "The TRUPACT designers are faced with a dilemma regarding single or double containment. The regulations specify that packaging for shipments of plutonium in excess of 20 curies, with certian exemptions, must be designed for double containment. The preliminary TRUPACT design (single containment with planned application for exemption from double containment) could fulfill the regulations, provided the exemption is granted. However, if the exemption is not granted, an additional effort later in the program would be required. In assessing the various alternatives for the TRUPACT design, the issue of single versus double containment for CH-TRU should be addressed in the near term to provide the necessary guidance for design purposes."

The 1982 peer review further stated, "The TRUPACT design strategy is to apply for exemption from this double-containment requirement, due to the low risk inherent in CH radioactive waste. It is recommended that the designers secure an early determination of this exemption from the U.S. NRC Transportation Certification Branch or else commence designing for the possibility that double containment will be required." On July 29, 1985 EEG also urged DOE to submit the design to NRC for their evaluation of an exemption.

The subsequent January 1983 Sandia response to the peer review comments was to ignore the double containment issue and merely state, "TRUPACT is being designed with a single level of containment in the packaging." There was no discussion of the need to obtain an exemption. Distribution of the report was limited to DOE and its contractors with the proviso that no one was authorized to further disseminate the information without permission. EEG did not learn of the existence of either the peer review report or the Sandia response report until 1985 when they were referenced in the DOE draft Safety Analysis for Packaging (SARP). In July 1983 the DOE issued a draft Order that provided the department an exemption mechanism from the requirements of double containment. The basis for such an exemption was not identified.

On August 5, 1983, the NRC reaffirmed the need for double containment for shipments in excess of 20 curies (10 CFR 71.63) and said that the request was justified when imposed by the AEC in 1974 and the NRC considers that the need for this requirement still exists.

NRC noted in the Supplementary Information to its Federal Register promulgation, that it had received a request to exempt plutonium contaminated solid waste from the requirements for solid form and double containment or alternatively to specify the criteria that would qualify for that exemption. The Commission commented that the plutonium must be in non respirable form, exemption must be considered on a case by case basis and that some solid waste forms undoubtedly would not qualify as being sufficiently non-respirable. The issues were not new. EEG pointed out the failure of the TRUPACT design to conform with the NRC standard in the August 1983 report EEG–24 (submitted for the record).

(2) The waste package cavity is continously vented through filters to the atmosphere. Continous venting was banned in 1983 [See 10 CFR 71.43(h)]. Alpha radiation induced radiolysis of organic materials in the waste can generate gases that can increase the pressure in sealed containers as well as produce flammable concentrations of hydrogen. A detailed discussion of problems associated with high curie loadings is treated in EEG–24 and the applicable regulations and use of getters and adsorbers in EEG–33.

The Final Environmental Impact Statement, issued by the Department of Energy ten months after the passage of the WIPP Authorizing legislation (PL 96–164) stated. "The transportation of radioactive wastes to the WIPP will comply with the regulations of the U.S. Department of Transportation (DOT) and the corresponding regulations of the U.S. Nuclear Regulatory Commission (NRC)."

Based on the information made available by the Department of Energy, EEG concluded in 1985 that there were fundamental deficiencies in the TRUPACT design that made the proposed shipping container less stringent than that required by the regulations issued by the AEC, the NRC, and the DOE. EEG notified DOE on July 29, 1985 that the proposed container was unacceptable for use in New Mexico. We also identified a number of mechanisms to correct the deficiencies including a request for an exemption from the NRC. (The correspondence including DOE's response is attached.)

RESOLUTION

The issues of noncompliance were resolved in May 1986 when Mr. Ray Romatowski, Manager, Albuquerque Operations Office (ALO), DOE informed the State that the TRUPACT was being redesigned to meet the applicable regulations by incorporating double containment and eliminating the venting feature. EEG has the highest praise for Mr. Romatowski's decision and we have been working constructively with DOE on the revised design called TRUPACT–II.

DOE RULEMAKING PETITION

Subsequently, on February 27, 1987, DOE Headquarters petitioned the U.S. Department of Transportation to issue a rule that would permit DOE to use the 1978 TRUPACT-I design with single containment and the venting feature which was incorporated in 1981.

We are opposed to this effort for the following reasons:

1. DOE, ALO made a commitment a year ago to meet the safety regulations and the work is underway.

2. The two regulations involved were issued by the NRC. A petition for rulemaking should be addressed to the NRC and not to DOT.

3. DOE has not published their justification for the 1978 single containment design and 1981 venting feature which fail to meet applicable regulations.

4. EEG has published our analysis "Adequacy of TRUPACT-I Design for Transporting Contact-Handled Transuranic Wastes to WIPP". James K. Channell, John C. Rodgers, and Robert H. Neill. Calculations indicate there could be from 2 to 12 accidents that resulted in releases of radioactivity (usually quite small) during the operation of the WIPP Project.

5. A 1979 Memorandum of Understanding between the DOT and the NRC delineated responsibilities for certifying different types of shipping containers. NRC assumed the responsibility to certify Type B shipping containers which included pressurization, structural analyses and containment.

6. At a meeting on March 24th, the DOT informed EEG and DOE that they have no plans to review the design, test data, calculations or analyses, nor will they certify any of the Type B shipping containers for WIPP. Hence it would appear inappropriate for DOT to engage in rulemaking for the design, testing, and analyses required for Type B shipping containers for WIPP.

7. DOE requested NRC to exempt waste from the double containment requirement for respirable plutonium. NRC rejected the requests and reaffirmed the requirement in 1983.

In summary, Mr. Chairman, when a design doesn't meet standards that have have established for the protection of the public health, the design should be upgraded. It doesn't make sense to keep the design and downgrade the standards.

Relevant materials for the record include:

"Potential problems from shipment of high-curie content contact-handled Transuranic (CH-TRU) waste to WIPP", Robert H. Neill, and James K. Channell, EEG-24, August 1983.

"Adequacy of TRUPACT-I Design for transporting contact-handled transuranic wastes to WIPP", James K. Channell, John C. Rodgers, and Robert H. Neill, EEG-33, June 1986.

July 29, 1985 letter Neill, EEG to McGough, DOE
September 18, 1985 letter McGough, DOE to Neill, EEG
June 14, 1985 letter Neill, EEG to MacDonald, NRC
July 10, 1985 letter MacDonald, NRC to Neill, EEG

Senator EXON. Mr. Neill, we thank you very much.

Mr. Gordon.

Mr. GORDON. Thank you, Mr. Chairman.

I want to thank you on behalf of myself and Mr. Novak for the opportunity to appear before the subcommittee to present the viewpoint of the City of Spokane on the critical issue of transporting radioactive waste.

I will briefly summarize Mr. Novak's written statement at this time. You will note that in the prepared statement that you have before you, there is reference made to two attachments.

Those unfortunately, will not be able to be delivered until tomorrow morning, which I assure you will be done.

Senator Exon. Yes, we will accept those for the record,[1] if you will please supply it to either myself or the staff.

Mr. GORDON. Thank you very much. In 1985, Spokane, a city of 175,000, in a metropolitan area of 375,000, created a loose coalition of communities and agencies along the I-90 corridor, from Ellensburg, Washington to the Wyoming-South Dakota border to pursue common concerns about the transportation of hazardous materials, chemical and nuclear.

Our city and regional concerns are shaped most recently by consideration of Hanford as a nuclear repository site, and its implications.

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[1] The attachments were not reproducible.

The Burlington Northern-Union Pacific rail corridor, and the I-90 corridor, pass directly through our downtown area. I-90 is one of the two authorized highway routes for entry of radioactive wastes into the State of Washington.

Passage through Spokane over many years of traffic to and from Hanford had left a legacy of vague unease. Recent revelations of some practices at Hanford over the years, contrary to DOE assurances that its practices were safe, has damaged DOE's credibility. Additionaly:

The Washington State Nuclear Waste Board, seeking to negotiate guidelines for the transportation of nuclear waste, was told by Hanford officials that transporting radioactive waste through the State will not lead to any bad consequences, so why worry.

A recent report of the Washington State Department of Social and Health Services shows that in 1984, of the 257 vehicles carrying low level radioactive waste into Washington through Spokane, 69 percent were issued tickets or given verbal warnings.

Arrest tickets for serious equipment violations were issued to 12 percent. Another 41 percent received warning tickets. And 16 percent received verbal warnings.

These inspections are conducted under State executive order by the Washington State Highway Patrol.

In December 1986, the Spokane City Council adopted a resolution addressing the transportation of radioactive waste. It expresses support of efforts by the State legislature to establish better control and inspection of transportation of radioactive waste material into Washington; support of Congressional action to reauthorize the HMTA; the city's intent to consider restrictive ordinances relating to transportation of radioactive waste through the community; support of uniform national regulations on nuclear waste transportation, which is preferrable to a patchwork of local ordinances; and support of the ability of Washington State to require U.S. DOE to use best available routes for nuclear waste transportation.

This resolution expresses the frustration Spokane and other local and State governments face in the attempt to ensure the safety of their citizens and keep as fully informed as possible about potential dangerous cargoes on their highways.

We believe human error is inevitable at times, despite the best engineering, the best of intentions, and the best of assurances.

We are assured that none of the four categories of radioactive waste poses a danger; that each is handled suitably according to its risk.

We are told to rely on a welter of DOT Procedures and memoranda of understanding, regulations and standards establishing shared responsibilities with DOE and NRC.

Notification procedures differ with each agency, DOE being less forthcoming than NRC. DOD is largely excluded. Too often, routing decisions are made for the convenience of shipper and carrier.

Spokane and the State of Washington need to do what they must to protect their citizens. We seek responsive state statutes and local ordinances, and also closer effective cooperation with the Federal Government.

We need a national body of regulations and procedures, developed with Federal recognition of the legitimacy of State and local government concern about safety of shipments.

We recommend inclusion of the following provisions, if I may briefly summarize, Mr. Chairman, in a reauthorized Hazardous Materials Transportation Act.

Federal assessment of the risks of transporting radioactive waste, and with the assistance of State and local governments, the routes which minimize risk; adapting the community right to know provisions of SARA to the transportation of radioactive and other hazardous materials; providing financial and technical assistance to States for improvement of emergency response capabilities, including the ability of States to levy fees on radioactive waste carriers, the proceeds to be used to improve response capabilities; analysis of the risks of transporting high level nuclear waste and spent nuclear fuel to each of the proposed nuclear waste repository sites and MRS sites; development of safe havens for radioactive waste carriers; recognition that State and local governments are partners in ensuring that transportation of radioactive waste is conducted in the safest possible manner.

I thank you, Mr. Chairman.

[The following information was subsequently received for the record:]

June 19, 1987

The Honorable Ernest F. Hollings
Chairman
Committee on Commerce, Science & Transportation
Russell Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Your letter of June 5 transmitted several questions regarding transportation of radioactive materials, following up my May 12 testimony and that of others on the State and Local Government panel. Please find enclosed five copies of the responses to those questions by the City of Spokane, Washington.

I indicated in my May 12 testimony that two attachments would be submitted for the record the following day. They were delivered to the Committee on May 13 under cover of a letter of that date addressed to Chairman Exon.

Thank you, Mr. Chairman, for the opportunity to respond to these questions, providing the City of Spokane with a further occasion to express its viewpoint on the important national issue of radioactive materials transportation.

Sincerely yours,

Robert E. Gordon
Washington, D.C. Assistant

Robert E. Gordon, Washington, D.C. Assistant *1620 EYE STREET N.W. WASHINGTON, D.C. 20006 (202) 429-0163*

Response to Questions from Senator Exon:

1. Under the provisions of HM 164, state and local governments have a limited role in helping determine highway routing patterns for both low level and high level radioactive materials. Local government input to the HM 164 process is and should be through the state.

While HM 164 leaves much to be desired, it does provide a mechanism through which state and local concerns may be considered. A process similar to HM 164 should be established for rail and barge transportation of radioactive materials, currently a serious gap.

However, we view as flawed the HM 164 process as currently administered by DOT, in that inconsistency rulings appear based more upon carrier convenience than safety considerations. The City of Spokane does not view enactment of local ordinances as an effective way to influence routing patterns, but we have considered this approach out of frustration with a HM 164 process we see as less than fully open to consideration of state and local concerns. We suggest that the Committee may wish to examine the manner in which HM 164 has operated to determine if DOT has exercised a proper balance between carrier convenience and the safety concerns of state and local governments.

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2. Inspection and enforcement is an area in which local governments like Spokane, and their state governments, must play a more active, better informed, and better recognized partnership role. Responsibility for inspection and enforcement lies with the federal government which, clearly, lacks the resources to properly exercise it.

State governments, and through them local governments, should be given clear, concurrent authority to enforce the inspection and enforcement provisions of the Hazardous Materials Transportation Act, the Motor Carrier Safety Act, the Nuclear Waste Policy Act, and the Rail Safety Act. The volume of radioactive materials to be transported in the years to come will increase markedly; yet, the routes to be followed and the states and localities through which these materials will be transported are known.

The federal government must begin, through financial and technical assistance and training, and grants of concurrent authority, to upgrade the capacity of these states and their local governments to provide the inspection and enforcement assistance which they alone have an on-the-spot ability to provide.

Response to Questions from Senator Danforth

1. Federal regulation of nuclear materials transportation is a cumbersome and incomplete system. While the HM 164 process is far from satisfactory, it does provide a framework. A similar process should be established for rail and barge transportation, which no level of government below the federal is authorized to inspect. Even DOD and DOE shipments not using contract carriers are exempt from federal regulation. The inconsistency ruling process under HM 164 is too lengthy.

DOT's state and local workshops do not provide an adequate outreach effort to educate, train and elicit the support of state and local governments.

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2. Emergency response is one area in which state and local governments can most effectively participate in improving the safety of radioactive materials transportation. A higher level of planning and training assistance to local and state governments in hazardous materials transportation, including radioactive materials, must be provided by the federal government. This should include both financial and technical assistance.

Unlike hazardous materials generally, transportation of radioactive materials under HM 164 requires uniformity of routing. The relative paucity of state and local options in routing radioactive materials, therefore, reduces the tradeoff leverage which might otherwise obtain in discussions about routing of hazardous materials generally. Regardless, it is inescapable that an effective national system of emergency response must be based upon a high level of preparedness, training, and capacity at the state and local levels. No one else is there to provide emergency response. The high, uniform level required can only be achieved with improved federal financial and technical assistance in an atmosphere of partnership.

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3. There is a definite need for rail routing guidelines. Federal regulation of radioactive materials shipments by rail, including input from and participation by state and local governments, might be established in concert with an examination of how the HM 164 process has worked, particularly with regard to balancing the convenience of carriers and the safety concerns of state and local governments.

Response to Questions from Senator Kasten

1. Spokane's experience in dealing directly with the various federal agencies responsible for radioactive materials transportation has been limited. Our questions have been courteously fielded by DOT's office of Hazardous Materials Transportation in Washington and by DOE/Hanford (by the public affairs division of the contractor, Rockwell International). Our questions to DOT involved routing and the thicket of inconsistency rulings to determine what latitude we might have had to proceed with local ordinances.

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2. There is a definite need for greater effort to educate the public about the transportation of radioactive materials and the safety precautions currently taken. However, the public can be most effectively reached if state and local governments are already on board as active participants in the processes of routing, pre-notification and, particularly, inspection, enforcement, and emergency response. The credibility of federal claims about the safety of radioactive materials transportation through the nation's cities and countryside will be much greater if backed by evidence that the opinions and the participation of those governments closest to the people have been clearly solicited, respected, and incorporated into the process. These levels of government can then participate reassuringly in federal efforts at public education.

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3. The notification process is between the responsible federal agencies and the State of Washington; consequently, the City of Spokane has had no first hand involvement in that process.

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5. Though inspection and enforcement may be a federal responsibility, it is at a barely discernable level from Spokane's perspective. The Washington State Highway Patrol performs an active inspection and enforcement role for low level radioactive waste at the two authorized entry points into the state for these materials, Spokane and Plymouth.

Spokane's written and oral testimony on May 12 cited the alarming results of the Spokane inspections: In 1984, of the 257 vehicles carrying low level radioactive waste, 69% were issued tickets or given verbal warnings for safety violations.

The need for an adequate national level of inspection and enforcement is clear. The federal government cannot itself perform those functions. They must be performed by state and local jurisdictions with on-the-spot capabilities. The federal government is responsible for insuring that those capabilities are real by providing financial and technical assistance and training to states and their local governments.

Senator **Exon**. Mr. Gordon, thank you very much.

Gentlemen, we appreciate your excellent testimony.

We had some State officials in at our previous hearing with regard to the response effort and the pressure that that places on the local communities, the large communities, but I guess especially on the smaller communities, where any of these accidents could happen. And that was on hazardous material.

Now we are talking about nuclear waste, which is potentially that much more dangerous.

I take it, from the testimony you have given us today, that this is a major concern of yours also, both from the hazardous material and then on top of that, nuclear waste going through your communities.

We talked a great deal about the fact that in the large cities, at least we have organized fire fighters who would be in the position, perhaps, to take some training, to respond.

Then we got into the matter that some materials require little if any protective gear; other materials require protective gear, that could cost $5,000-$7,000. And we were talking about how difficult this was particularly for the communities in all of our States where we depend on rural volunteer firefighters.

It is a monumental problem. We were looking at some of the ways some of the States and communities had handled this. And it came out that some of the States had at least experimented with a proposition of a totally professionalized, dedicated response team or teams, located in critical, hopefully centralized areas that would be on fulltime alert, a SWAT squad, so to speak, that would be able to go out by helicopter when something of a major crisis took place.

Now, you know, in some instances, that might be way too late. The locals are going to have to do something. It seems to me that this is an expense that the Federal Government is going to have to at least assist with.

What is your thinking on this? How in the world are we going to go about the mammoth job of training people, both in professional firefighting facilities, and more importantly, volunteers?

Is that not a mammoth task, Mr. Woodbury?

Mr. **Woodbury**. Yes, it is. It has been a concern of our State since 1978. We are talking about levels of competency and education.

Obviously, you cannot train the local firefighters, and in most States, you will find out that I will bet 80 percent of each State are volunteer departments. And their level of knowledge is not that of what it would be of a professional unit.

Now, most often, firefighters, the fire department is the one that is going to be called upon to handle an incident. We envisioned in our State regional training in major fulltime fire departments, which in turns would be servicing an area outside their fire jurisdiction.

Along with that, we would be helping to provide training and education for the local firefighters to try to let them know what they could do with what they have.

Now, that does not preclude them from organizing their own special unit if they choose.

Yes, it is very costly. We know it. We did establish it with 402 funds from transportation, then they dried up. The program goes down.

Now, with SARA, Superfund Amendments Reauthorization Act, seems to be another kick for the States to get involved in local training. However, there is no money there to man or support this type of equipment and education.

We are seriously looking at trying to assess fees so we can devote ourselves to training programs and specialized equipment.

But we have to have an integrated approach. It can't be just one special SWAT team. Different levels of training.

Senator EXON. Gentlemen, we have a vote on. We have about six minutes to get over there to vote.

What is your pleasure? Do you think it might just be appropriate to recess our meeting until say 4:45? I assume we are going to have another vote immediately following this.

Senator KASTEN. I would like if I could, Mr. Chairman, just to make a brief 15 second statement.

Senator EXON. Certainly. Glad to recognize Senator Kasten.

OPENING STATEMENT BY SENATOR KASTEN

Senator KASTEN. I would like to say first of all, welcome to David Woodbury from Wisconsin. I am pleased that you are here, and I appreciate your testimony.

Thank you, Mr. Chairman. The two hearings that we have already had concerning the transportation of hazardous wastes have been enlightening as to the problems we face in this society where we must necessarily transport vast amounts of hazardous materials. Our hearing today on the particular problems associated with the transportation of nuclear materials, judging by the witnesses scheduled to appear before us, should assist us in formulating what policies and legislative measures need to be adopted to best protect the safety of our citizens.

With regard to the witnesses, I am pleased to add a special welcome to David Woodbury of the Wisconsin Department of Natural Resources. Since 1977 Mr. Woodbury has been intimately involved in these issues. Representative assignments have included the Transportation Task Force of the President's State Planning Council on Radioactive Waste Management, coordinating the Governor's Hazardous Materials Task Force, Chairman of the Governor's Task Force on Radioactive Waste, and Technical Advisor to the Governor's Inter-Agency Work Group on Hazardous Materials Transportation. He currently serves on the Wisconsin State Emergency Response Commission and is a member of the National Academy of Science's Hazardous Materials Transportation Committee. I am pleased that Mr. Woodbury could appear today.

Though the percentage of all hazardous materials shipments each year are radioactive materials, this percentage is necessarily increasing. The public is naturally apprehensive. The Nuclear Waste Policy Act of 1982 requires that by 1998 the DOE must take title to the 90,000 highly radioactive spent fuel assemblies and transport them from the reactors to a repository. We therefore must assure that the safest most efficient system is in place for both today's shipments and those of the future.

This situation involves the need for a national policy that takes into account the concerns of our states and local governments as to the implementation of such policy. In a time of budgetary constraints there has to be a mechanism of funding that can be counted on to address the various training, enforcement, and administrative responsibilities that have been identified for the various levels of government.

Finally, the problems in the transportation of nuclear materials, as with the other types of hazardous materials, cry out for a clearer delineation of responsibilities between the private and public sectors and the various levels of government so that the interests of all citizens are fairly protected. I look forward to the testimony of our witnesses today and working on the legislative measures that may be necessary.

I did have some questions which I would like to direct to the members of the panel for response in written form, having to do with the possibilities of prenotification for classified as well as nonclassified materials.

And I know there are a number of issues that are related to those kinds of questions. But if there is not some kind of way that we could have better prenotification on classified materials, and have that notification in a particular way and form.

I have a series of questions that I was prepared to ask, but now I will not be able to. But I will send those questions to you, and I would ask that you respond.

But I want to say welcome to you.

Senator EXON. We will recess until 4:45 unless we are reconvened earlier, at the call of the Chair. I would like to ask the panel to remain if it could, and then we will move shortly to the last panel.

Thank you, we are in recess.

[Recess.]

Senator EXON. The subcommittee will come to order. I apologize for the interruption. It is the trials and tribulations of the U.S. Senate. A lot of maneuvers going on.

Gentlemen, I am sure that Senator Adams is going to be back. He will have a question or two, and then we will move on.

We appreciate it, and thank you for your patience once again.

Do you have any specific suggestions, in addition to those that have been outlined in your statements or prepared remarks, just for the record, on how the Federal programs for transport of radioactive materials might be improved for the benefit of the States and localities?

I assume that you would all say that, obviously, you are going to need some financial help in this area. I think that is a foregone conclusion.

In addition to that, what would you put as your next two prime suggestions as to help us out to help you?

Mr. Woodbury, go ahead.

Mr. WOODBURY. As a State, we have been having problems, or the complaints we have had, is the attitude that the Federal Government has in dealing with State people.

One of the questions earlier in one of the other sessions was, most local communities and States want to put a ban on shipment of spent fuel, and that is not necessarily true.

I think that is an idea that is being bantered around and used quite extensively by people who do not really sit down and talk to States as to what their real concerns are.

They are not so much concerned, at least we are not so much concerned, about a ban, although we are concerned about the shipments, as that we should have some type of involvement.

And it seems to be that it is being glossed over as just a pro-nuke anti-nuke. And our concern is the safety aspect, not to ship or not to ship.

Senator EXON. Are you saying, Mr. Woodbury, that by and large people are coming to understand that we are going to have to be moving nuclear waste around. And if we can satisfy them that we are meeting the maximum realistic safety requirements, and if we have a program in place for best response possible under the circumstances, that we would not have any massive objections to a program?

Is that what you are saying?

Mr. WOODBURY. It might diminish some of the legitimate concerns that States and locals have. There are always going to be some discussion on the approach that the Federal Government, which does have to look at a general approach to safety, as opposed to what State and locals are concerned with, because they have specific concerns.

And if there is an attempt to address it, there might be more willingness to accept it. That does not mean it is going to be wholeheartedly accepted.

And I think everyone realizes, whether you are pro-nuke or anti-nuke, shipments are going to be made eventually, and we want it in the safest possible way.

Senator EXON. Mr. Neill?

Mr., NEILL. Mr. Chairman, since the transportation of waste to WIPP will involve approximately 30,000 shipments, and that conceivably could increase at some date in the future with the buried waste being exhumed and shipped, one possible consideration would be requiring the transportation to comply with the regulations of the Nuclear Regulatory Commission.

That might be one suggestion to consider, since in this instance, there seems to be some question on the interpretation of those regulations.

Senator EXON. What do you mean? If that were spelled out more properly and enforced?

Mr. NEILL. Yes, although DOE stated that they will comply with the transportation regulations of both DOT and NRC, I am suggesting that Congress might say that the transportation shall comply with the regulations of those two agencies.

Senator EXON. Well, you heard the earlier exchange that we have all had, I guess. I was asking the question that basically came down, why don't we just say, there is one standard, and no other department would have the authority to go to equivalency, whatever that means.

What you are saying is that, find the standards as best we can, define them, and then have everybody hopefully use the same approved containers, which we assume would be the best that we could produce?

Mr. NEILL. That is an excellent concept, Mr. Chairman. I always found it difficult to explain how a box that was designed with a venting feature could be demonstrated to be equivalent to a regulation that precludes having a venting feature in that box.

Senator EXON. Mr. Gordon?

Mr. GORDON. I would have some observations of a general nature, Mr. Chairman.

What we are talking about in terms of transportation of radioactive waste, hazardous wastes of all sorts, is really a national problem.

And as is the case with national problems, they are manifested on the highways and railroads that pass through local jurisdictions and the countryside all over the United States.

So if anything is going to result in terms of an accident, it is not going to be in the DOT parking lot, it is going to be somewhere out in the United States where the locals who live there are going to be presented with the necessity of dealing with an accident of that sort.

I think this really goes to the heart of where most State and local governments are coming from, in that I think there is a real need for a recognition on the Federal level that there is a legitimate role in a partnership sense for State and local governments to play in helping to shape this body of national rules and regulations that will govern the increasing volume of shipments that we are going to find, particularly in the radioactive area over the coming years.

Senator EXON. Thank you.

Senator Adams.

Senator ADAMS. Thank you, Mr. Chairman.

Mr. Neill, I asked a series of questions earlier today about TRUPACT. And you are the last witness to complete the cycle in this.

And I notice in your testimony something that bothers me very much, and that is why I bore down so hard on those witnesses. And that is, that you had given to you the fact that TRUPACT–I, the first cask, was going to come through New Mexico and to the WIPP site; isn't that correct?

Mr. NEILL. Yes, sir.

Senator ADAMS. And you identified, according to your testimony, that this cask was badly flawed; it did not have double containment, and it had a filter system that could release materials into the atmosphere; is that correct?

Mr. NEILL. Well, Senator Adams, I would not characterize it as badly flawed. I would characterize it, however, as failing to conform with safety regulations which were first issued in 1974 for double containment, and then the design included a venting feature in 1981.

Both of those design features were in violation of regulations that had been issued by the U.S. Nuclear Regulatory Commission in the name of health and safety.

Senator Adams. Now, what bothers me about this is, I understand then they told you they would go to TRUPACT-II, or to a followup design; is that correct?

Mr. Neill. Yes, sir.

Senator Adams. And that satisfied you in the sense that it had met that.

But then on February 27th of this year, they came in and petitioned—and maybe I didn't make this clear in my earlier questioning and testimony—that 10 months afterwards, on February 27th, they went in to the Department of Transportation and asked for a waiver to go back and use cask one; isn't that right?

Mr. Neill. Well, actually, Senator Adams, I believe what they requested was a new rulemaking to rewrite the regulations, which previously would require double containment to merely require single containment.

Senator Adams. But that is what I mean. After you had gone through this, had them say they were going to go to a new design that satisfied it, then they went back, and I think you put it very well, and said, well we are going to use the first one, and whether you call it an exemption, or rewrite the rule, the effect is, they went right ahead and did what they wanted to do in the first place regardless.

Mr. Neill. That is correct.

Senator Adams. I think that is pretty bad, is it not? Does that bother you?

Mr. Neill. Yes, it does, and for this reason, we have requested and believe that the petition should not be addressed by the Department of Transportation, for that, as well as the seven reasons I cited in my prepared testimony.

Senator Adams. All right, I have just one other question. Mr. Gordon, welcome. I am glad that you are here today. Please give my best to the other officials in Spokane, and your coalition has been very helpful.

I just have one question. It is in your testimony, and it concerns me that Spokane is the gateway for I-90 and the railroad coming through.

And is this correct that your study showed that out of 257 vehicles carrying this low level nuclear waste that were inspected, that 69 percent were issued tickets or given verbal warnings?

Mr. Gordon. Yes, sir, that is the case, based on the State——

Senator Adams. That arrest tickets went to 12 percent; 41 percent got warning tickets; and 16 percent, verbal warnings. And I assume those are for safety warnings, is that right?

Mr. Gordon. I believe that is correct, yes, sir.

Senator Adams. I think that is a very bad situation. I appreciate you being here.

Thank you, Mr. Chairman.

Senator Exon. Gentlemen, thank you very much. We certainly appreciate your coming in and we appreciate your excellent testimony.

We now go to our last panel, that has been very patient for the last three hours: Mr. Charles Dettmann, Vice President of Transportation, Union Pacific Railroad; Mr. Charles Mayer, Tri-State Motor Transport; Mr. Robert W. Bishop, Chairman, Electric Utility

Companies' Nuclear Transportation Group; and Ms. Melinda Kassen, Staff Attorney for the Environmental Defense Fund.

Welcome to all of you, and we appreciate very much your coming here. Most of all, we appreciate your patience. Let us begin, if we might, with Mr. Charles Dettmann.

STATEMENTS OF CHARLES DETTMANN, VICE PRESIDENT, TRANSPORTATION, UNION PACIFIC RAILROAD; CHARLES MAYER, TRI-STATE MOTOR TRANSIT CO.; ROBERT W. BISHOP, CHAIRMAN, ELECTRIC UTILITY COMPANIES' NUCLEAR TRANSPORTATION GROUP; AND MELINDA KASSEN, STAFF ATTORNEY, ENVIRONMENTAL DEFENSE FUND

Mr. DETTMANN. Thank you, Mr. Chairman. We appreciate the opportunity to appear before this committee.

I have submitted a formal statement in detail for the record.

Senator EXON. We will accept that for the record and the statements of the other three witnesses.

Mr. DETTMANN. I would like to hit the high spots here. Shipments of spent nuclear fuels and high level radioactive wastes should be transported in dedicated train service, with no Department of Energy-imposed speed restrictions. This is the safest form of rail transportation. It is not an economic issue. Rather, it is an operating and safety issue.

Indemnification of carriers transporting radioactive materials under the Price-Anderson Act must be clarified, due to the significant public perception of the hazard involved, so that there is no doubt that the protection extends to all accidents, whether or not there is a release of radioactivity.

Hazardous material regulation must be modal specific if it is to be effective. Rail, highway, water, and pipeline are totally different modes of transportation and should be addressed as such.

Union Pacific Railroad is the largest rail carrier of hazardous material in our country and has an excellent record for safely transporting hazardous material of all types.

The preemption clause of the HMTA should be strengthened to assure that the present system of comprehensive safety regulation implemented by the Federal Railroad Administration is not adversely affected by adoption of inconsistent rules at the state or local level, or that state or local officials attempt to enforce the Federal regulations in a manner that is not uniform from one jurisdiction to another.

Funding for emergency response training, equipment acquisition, and other purposes is authorized for appropriation under Superfund Amendments and Reauthorization Act, which appears to Union Pacific to be more appropriate than a registration scheme to raise these funds under HMTA.

All response activity and training should center in one Federal agency to be effective, rather than spread among the diverse agencies as it is at present.

Union Pacific spends $5 million a year on hazardous material training and 70 percent of the communities Union Pacific serves have had some form of hazardous material training.

Union Pacific does provide general information on the types and quantities of hazardous material to communities on request. But we believe that it is not practical to provide this type of information on a real time basis. Rather, it would be counterproductive.

Routing restrictions for rail transportation are not justified. The safest and best maintained tracks are those which serve the heavy industrialized major metropolitan areas and offer the least time exposure.

The ICC has ruled that railroads have a duty as common carriers to transport nuclear materials and cannot refuse to do so because they believe it too risky. Union Pacific strives to provide the highest level of safety for the transportation of spent nuclear fuels and high level radioactive wastes by providing a level of service exceeding that required by DOT's hazardous material regulations.

I would be pleased to answer any questions you may have.

[The statement follows:]

STATEMENT OF CHARLES E. DETTMANN, VICE PRESIDENT-TRANSPORTATION, UNION PACIFIC RAILROAD COMPANY

Mr. Chairman and members of the Subcommittee, my name is Chuck Dettmann. I am Vice President-Transportation for Union Pacific Railroad Company in Omaha, Nebraska. I am pleased to have the opportunity to talk to you about how my Railroad moves hazardous materials in a safe and efficient manner. As you requested, the focus of my statement will be Union Pacific's transportation of radioactive materials, specifically the movements from Three Mile Island. First, however, I would like to briefly discuss Union Pacific's hazardous materials program overall and address several issues that have already been raised in the context of reauthorization of the Hazardous Materials Transportation Act.

Union Pacific is the nation's third largest rail carrier in terms of trackage, operating nearly 21,000 miles of track in 20 states. We rank first, however, in terms of carriage of hazardous cargo. In 1986, Union Pacific moved about 242,000 carloads of hazardous materials.

Railroads are an extremely safe mode for the movement of hazardous materials. Statistics show that there is less likelihood of an accident in the course of rail transportation than in the course of transportation over the highways. The railroads' admirable safety record is the product of the industry's recognition of its obligation to the public, railroad employees and railroad stockholders to move hazardous commodities with every legitimate safety precaution in place. There have been no fatalities in the course of rail transportation of hazardous materials since 1980.

THE UNION PACIFIC PROGRAM

Union Pacific consistently has one of the lowest train accident rates in the United States. The reason for our outstanding record can be summarized in four words: prevention, preparedness, response and recovery.

Prevention: One of the principal ways to avoid train accidents and incidents is to maintain track to high operating standards. Last year alone, Union Pacific's capital investments amounted to $494 million. The great majority of this went for track renewal and maintenance. We have also begun testing a new Advanced Train Control System (ATCS). Through transponders buried in the track bed, train dispatching centers will be constantly aware of the exact location of a train, its speed, and other critical information. If a train fails to respond to instructions, such as a stop indication from a signal, ATCS will alert the engineer, and then, if no action is taken, will enforce the instructions and slow or stop the train. The ATCS system will preclude accidents such as the recent Amtrak-Conrail collision. Union Pacific expects to install ATCS over its entire system over the next three years.

Our prevention measures are also enhanced through vigorous training efforts. In the hazardous materials area, our Technical Training Department delivered nearly 30 different programs to more than 8,400 employees during 1985 and 1986. This year, the Company is giving refresher training in the operating rules and hazardous materials regulations to all of our employees in train and engine service and all other employees who are required to know the operating rules.

Preparedness: Our program to ensure the safe handling of hazardous materials also requires that our employees be prepared for an accident in the event that circumstances overcome our efforts to prevent it. Preparedness often involves local emergency response agencies as well as our own internal efforts.

One of our predecessor companies, Missouri Pacific Railroad, in 1975, developed the Hazardous Material Response information system which, by computer, identifies each car of hazardous material in each train. This system displays the proper first response in case the material is on fire, not on fire, personal protection, and evacuation, to our crews and the first responders in case of an incident. The system has been made available to all railroads in the United States at cost.

Union Pacific has been a leader in developing training programs for use by public emergency response agencies, the railroad industry, and our own employees. We have developed emergency response plans in conjunction with local agencies for all our major yard locations. Our Technical Training Department has developed two programs entitled "Recognizing and Identifying Hazardous Materials" and "Hazardous Material Incident Analysis," which have been made available to the Federal Emergency Management Administration at no cost for delivery to firefighters, law enforcement officers and others called upon to respond to transportation emergencies.

We also jointly sponsor two-day training programs with the U.S. Environmental Protection Agency in the various Federal regions. Our efforts to train local emergency response personnel reached more than 5,800 persons during 1986. We have maintained this level of training activity over the railroad for the past six years. Today there is at least one person trained for emergency response in 70% of the communities through which Union Pacific operates.

Union Pacific initially requested and assisted in the development of hands-on training programs for local emergency service personnel who respond to hazardous materials incidents and tank car emergencies. These programs now are being offered through the Association of American Railroads at its research, test and training center near Pueblo, Colorado. During September, 1986, Union Pacific sponsored a tank car safety course at the Test Center for a group of firefighters from each state Union Pacific serves. We provided course fees, travel and hotel expenses for the attendees.

Response: The initial reponse to an accident or incident on our lines by local emergency response personnel is aided by the Hazardous Material Response Information on board the train, as described earlier. The period immediately following an accident is critical for the protection of life and a proper understanding of the nature of the material is vital to ensure a difficult situation is not made worse by an incorrect or uneducated response. Subsequent to the first response, there is a coordinated effort of our trained Hazardous Materials Special Agents, Omaha-based experts in handling hazardous material incidents, and the shipper/manufacturer of the material in conjunction with CMA's network of resources.

Recovery: Finally, Union Pacific has contracts in place with nationally-recognized firms in the field of "quick" emergency response to spills of oil and hazardous materials. These firms are charged with cleaning up a release quickly and in an environmentally sound manner.

Aside from these efforts, we are presently donating a copy of one of the most widely recognized emergency response publications to every emergency response agency protecting our lines. This effort will cost approximately $30,000. We are also purchasing additional equipment needed for emergency transfers of hazardous materials. The estimated cost of the additional equipment will exceed $100,000.

PROPOSED AMENDMENTS TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT

Union Pacific and the balance of the rail industry have actively sought the development of better equipment, more sophisticated operating techniques and progress in other areas that will enhance our ability to move hazardous commodities safely. Union Pacific serves on the Hazardous Materials Advisory Council, the Inter-Industry Task Force on Hazardous Materials and, along with Dow Chemical Co., is taking the lead in a Railroad-Chemical Industry Coalition investigating opportunities for safer transportation of hazardous materials in addition to what is already being done. We feel that given our experience in moving hazardous materials, we are very knowledgeable about the issues the Subcommittee is looking into and can offer some constructive suggestions.

Union Pacific would like to make several recommendations with respect to issues addressed in the OTA study and other matters raised during the Subcommittee's two previous hearings on the HMTA. Let me preface my remarks by stressing that the railroads do not feel that we should be included in reauthorization legislation which would impose new layers of regulations. New proposals advanced to deal with safety problems in the trucking industry should not be applied to railroads in order to "cover all the bases." The railroads have a good safety record on transporting hazardous materials, are diligently striving to make the record better and are already subject to comprehensive regulation by the Federal Railroad Administration.

Federal Preemption: We strongly believe that the Hazardous Materials Transportation Act should be amended to strengthen and clarify the statute's preemption language. The legislative history of HMTA indicates that Congress clearly intended to preclude a proliferation of state and local regulations and the potential for varying and conflicting requirements. Nevertheless, state and local governments are becoming more and more active in regulating hazardous materials transportation and are imposing permit, routing and other onerous regulations. Only through a lengthy proceeding before the Department of Transportation can inconsistent requirements be declared unenforceable. In fact, Union Pacific is involved in such a proceeding which involved transportation of radioactive material. We supprt the suggestion made by the Office of Technology Assessment that DOT provide more technical and policy assistance to states and communities as they are developing proposed regulations. Inconsistent and unwarranted local regulations could then be avoided.

Enforcement: Union Pacific supports the recommendation of the Hazardous Materials Advisory Committee that regulations imposed on the railroads be enforced exclusively at the Federal level. While some state and local involvement may be warranted for motor carriers, the great majority of rail transportation is interstate in nature. (Recent mergers have only strengthen this fact.) Consequently, uniform regulations and enforcement are essential. The Federal Railroad Administration currently employs more than 300 rail safety inspectors, 35 of which devote full time effort to enforcing hazardous materials requirements. If more enforcement is deemed necessary, it must be at the Federal level. Unlike motor carriers, railroads are relatively few in number and can be easily identified and subjected to DOT's enforcement powers.

DOT must also be the final authority for including materials to be regulated in transportation. Materials have been added to various Federal lists having certain reporting or handling requirements without corresponding regulations by DOT, *e.g.*, SARA extremely hazardous substances requiring notification to the National Response Center in case of a spill. Without regulation by DOT, a carrier is unaware of these requirements for a material in his possession. Part of DOT's determination to include material from another agency's rulemaking must include a determination that the material does move in the critical quantity in commerce, *i.e.*, a material that warrants inclusion on the agency list could pose a serious problem at a manufacturing site but would only be seen in commerce in a highly diluted formulations that does not pose the same problem if released.

Emergency Response Funding: It is our view that the Hazardous Materials Transportation Act is not the proper vehicle for considering the issue of funding emergency response activities. HMTA is concerned only with transportation, while the issue of emergency response involves not only transportation but the generation of hazardous materials and their use and disposal. Roughly 75% of all releases of hazardous substances occur during these activities, not during transportation.

Union Pacific presently contributes substantial sums for emergency services in our operating territory through state and local taxes. State property, sales and use and corporate income taxes paid by Union Pacific amounted to more than $65 million in 1985 alone. In light of the sizable contribution we are already making to emergency response in the form of taxes and the training of local response personnel, as well as our admirable safety record, we believe it would be unfair to subject us to another, special tax to finance response efforts. The 1986 Superfund amendments authorized $5 million in annual funding for emergency response training and equipment. We encourage Congress to fully appropriate these funds. With this additional source of revenue, the emergency response funding needs identified by OTA would largely be satisfied. This training for emergency response should be funneled through one agency, and Union Pacific believes it should be FEMA.

Community Right-to-Know: A distinction must be made between community right-to-know about hazardous materials shipments and prenotification to communities of each individual shipment on a real-time basis. Union Pacific does not object to providing local officials general information about the hazardous commodities that are being moved through their towns. We in fact are already providing lists to our communities upon request that enumerate the hazardous materials that moved through a specific location over a one-year period. We recognize that local officials and residents are concerned about these movements and are often even more concerned because they feel totally in the dark about what is being moved and how to respond to an incident.

We would strongly oppose, however, a requirement that we notify each of the 3,000 cities and towns along our system of every shipment of hazardous materials. Not only would such prenotification be totally unworkable for the Railroad, it would actually be counterproductive for local response teams. Communities would be receiving so much information that they would be totally immobilized by paper.

Routing Restrictions: Routing restrictions should not be applied to the railroads. Much of our best track structure is located in urban areas where we have the most business. More circuitous routes bypassing urban areas would also increase the transit time, and hence the period for potential incidents involving hazardous materials.

NUCLEAR MATERIALS

Railroads have no choice in deciding whether or not to participate in transportation of nuclear materials. The Interstate Commerce Commission has ruled, and the federal courts have affirmed the ruling, that railroads as common carriers have a duty to transport nuclear material. Railroads cannot refuse to handle radioactive materials even if they believe it is too risky.

Railroads are obligated, therefore, to publish tariffs indicating the rates, rules and regulations under which we will carry this particular material. Various federal agencies have established safety features that govern rail transportation of nuclear materials. The ICC also held that the railroads cannot require shippers to pay for services or features not specifically required by those federal agencies or requested by the shippers.

Union Pacific accepts its obligation to transport nuclear material. However, we are concerned about the direction of regulation over our operations.

The public perception of nuclear materials is such that rational discussion concerning its safety is often very difficult. The public at large perceives radioactive materials to be extremely hazardous. In fact, most people apparently consider nuclear material to be much more hazardous than commodities that experience has shown to be more volatile, such as gasoline. Union Pacific is concerned as well since the risks associated with nuclear material are subject to widespread debate.

Consequently, our primary concern is safety and accident prevention. Even a minor incident without any release of radiation would result in a significant interruption of Union Pacific's rail operations.

The goal must necessarily be the safe, expeditious movement of nuclear materials from origin to destination. Safety for the public and our employees is the paramount concern to Union Pacific. The nature of this commodity requires special handling at all times. Union Pacific takes a number of precautions many of which are not required by any agency.

For example, every train that transports nuclear materials receives heightened management supervision. Trains carrying nuclear material are routed over our highest quality track.

Although not required by federal regulations, Union Pacific trains transporting nuclear materials remain on our main line when meeting or passing other trains. Other trains are required to enter sidings or reduce speed when being met or passed by a train carrying high-level radioactive material.

Union Pacific's practice is more stringent than federal regulations in other respects. We require that the cars transporting radioactive materials always be switched or moved under positive control of a locomotive. Union Pacific also on many occasions operates a special train over its branch line to the Idaho destination for the delivery of DOE high level shipments to insure that they arrive as quickly as possible, avoiding undue exposure.

In addition to the above, Union Pacific restricts the speed of trains transporting the Three Mile Island damaged fuel to a maximum main line speed of 50 mph. This speed restriction limitation is similar to the maximum speed restriction we place on all hazardous material movements, even though the main line track in many areas is classified for a maximum freight train speed of up to 70 mph.

Interestingly enough, the Department of Energy has placed no speed restriction on the Three Mile Island movements. However, DOE restricts the movement of loaded and unloaded empty cask cars for DOD spent fuel rods to a maximum speed of 35 mph.

The sum of all the safety features which Union Pacific has imposed on its operations are designed to move nuclear material from origin (or from the interchange point with another railroad) to destination as swiftly and safely as possible. The

Interstate Commerce Commission has ruled that railroads cannot charge DOE under tariff for the cost of dedicated train service (*i.e.*, a train carrying no other commodity). Nevertheless, the safety precautions Union Pacific has imposed and those that are required to satisfy public perception, particularly the perception of material being moved from Three Mile Island, require Union Pacific to provide a level of service characterized by special handling.

It is important for the federal government to consider that public perception in establishing transportation regulations and procedures. The federal government, rather than state or local government, has and must retain the primary role in regulating transportation of radioactive material, particularly high-level nuclear material. There are a number of agencies involved. DOT establishes transportation safety standards, NRC sets container standards and DOE has overall responsibility for arranging and supervising military and most civilian movements of spent fuel. Union Pacific has worked with DOT, DOE and its contractors. While coordination among these agencies is generally good, there is a lack of consistency and perhaps openness or candor in the administration of these transportation programs. In my opinion, DOE must assert its responsibility over every aspect of nuclear materials transportation. DOE also must be open as to methods of safer transportation as defined by the carriers involved. We are as interested in safe transportation of this material as any government agency.

National policy on nuclear materials mandates federal preemption of state and local requirements that conflict with federal reglations. Therefore, local licensing for rail transportation is unnecessary. Furthermore, notification to state and local officials concerning transportation of nuclear materials does not materially increase safety. If such notifications are to be performed they should be accomplished uniformly by the Department of Energy. Finally, state or locally mandated radiological inspections, speed restrictions, and routing requirements cause undue delay, increased exposure to the risk of accident and result in numerous inconsistencies among communities for railroads like Union Pacific which operate through numerous states and communities. In sum, the federal government must establish a rational, consistent and uniform approach for nuclear shipments as applied by all federal agencies. That approach should apply in all state and local jurisdictions.

The Department of Energy must be recognized as having full responsibility as the lead agency in arranging, coordinating and supervising transportation of nuclear materials. Since radioactive materials are a unique commodity, the typical shipper-carrier relationship does not exist for these movements. Therefore, DOE must recognize and address the unique problems facing railroads involved in the transportation of these materials.

Despite assurances from numerous governmental officials, the public perceives radioactive materials as presenting a unique hazard. The railroad has day to day contact with the communities through which this material is shipped. Therefore, we are at the front line of any reaction to movements of this type of material through the communities. The railroads also are concerned for serving the best interests of the public, their employees and their shareholders. Consequently, Union Pacific is vitally concerned about safety and safety precautions. DOE must take this into consideration as well.

Union Pacific has had extensive experience in transporting nuclear material, most recently the Three Mile Island shipment. In view of this experience, it is Union Pacific's position that high-level nuclear material should be moved in dedicated train service. That is, no other commodity should be transported on the train with nuclear materials.

Additionally, DOE should not impose a speed restriction on these train movements. Union Pacific proposes that these movements travel under no speed restrictions other than those currently imposed by each railroad for other hazardous material movements. For example, Union Pacific trains carrying hazardous materials are limited to a maximum speed of 50 mph in open areas on the main line. Clearly, in densely populated areas slower speed limits already in effect would apply. Union Pacific submits that dedicated train service of this nature is necessary in view of the uncertainty surrounding the transportation of nuclear material and the public perception of that transportation. Recent events with respect to nuclear accidents indicate that the public, as well as carriers, must exercise extreme caution in dealing with this type of commodity.

Union Pacific further submits that dedicated train service is a necessary safety feature and is required to satisfy public concerns over safety. Therefore, shippers including DOE should compensate railroads for this special handling that is provided in the best interests of all. In addition, the Price-Anderson Act which provides for indemnification of carriers transporting nuclear materials must be clarified.

There should be no doubt that the protection offered to transporters of nuclear material extends to all accidents where nuclear materials are on-board the conveyance whether or not there is a release of radioactivity.

Union Pacific's position is founded in large part on experience in participating in the Three Mile Island shipping campaign. Union Pacific agreed to provide dedicated train service at a rate of approximately 40% of its normal dedicated train service transportation charge. However, even though DOE has stated publicly that the TMI material will move in dedicated train service, efforts continue to address moving this material in regular train service on Union Pacific. The carrier east of the Mississippi River has been assured that the TMI shipment will move in dedicated train service on that carrier.

It is evident that the level of service provided for movement of radioactive material must be uniform for the entire route of movement. Citizens of Kansas City, Missouri, are entitled to the same level of protection in movement of nuclear materials as is provided to the citizens of Indianapolis, Indiana. Nevertheless, DOE appears to have taken the position that the railroads, not the federal government, must convince the public that nothing other than dedicated train service is a safe form of transportation.

The DOE must be uniform and candid in its approach to the coordination of nuclear materials transportation. DOE must recognize that the nature of the commodity requires special handling. As I have noted above, Union Pacific's position is that dedicated train service is the only method by which to ensure safe handling. On the other hand, DOE should not attempt to establish speed restrictions for this material. Union Pacific and all western railroads do not operate at 35 mph. We have also had extensive experience in train control and management where hazardous materials are on board. Consequently, we are qualified to establish safe speed limits for hazardous materials movements. In any event, the cost of providing the safety features which are necessary to satisfy the concerns of the shipper, the transporter and the public should necessarily be included as part of the transportation charge.

In conclusion, I would like to emphasize that Union Pacific has and will continue to meet its responsibility to transport radioactive materials safely and efficiently. However, the DOE is responsible to the public for movement of this material, not the railroads. The DOE must discharge its responsibility over these movements more effectively by active involvement in direct coordination with state and local officials. DOE must educate the public on the safety of the movement. DOE must intervene with state and local officials who attempt to put additional burdens on interstate transportation of these materials. State and local requirements by-and-large hinder the expeditious movement of these materials.

Railroads are in the business of transporting commodities. Union Pacific can and will meet its obligation to the public, its employees and its shareholders to transport nuclear material safely. However, Union Pacific should not be required to assuage public concern or surmount a battery of local regulations which unnecessarily impede the safe movement of nuclear materials to their destination.

Thank you for the opportunity to appear before you today. I am prepared to answer any questions you might have.

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR EXON AND THE ANSWERS

Question 1. DOE has concerns about the use of dedicated trains for reasons of cost. Can you explain to me the approximate cost a shipper might expect to pay for use of a dedicated train versus a mixed train? What factors go into these costs?

Answer. A commercial shipper requesting special freight train service, *i.e.*, a train devoted to the movement of a single commodity, will pay approximately $48.79 per train mile with a minimum of $5,400 for each railroad participating in the movement. This charge would be in additon to the class, commodity or other rate in applicable tariffs or quotations for movement of the particular commodity in regular train service, *i.e.*, with other cars of rail traffic. The special train rates are on file with the Interstate Commerce Commission and are published in various tariffs. However, a confidential and restricted rate is available to the Department of Energy. That tariff provides that special train service will be furnished at a charge substantially less than $48.79 per train mile. Furthermore, the Union Pacific portion of the Three Mile Island shipments is governed by a rail transportation service contract. Union Pacific's contract with the DOE contractor responsible for the movement of nuclear debris from Three Mile Island provides that Union Pacific will furnish "expedited service" (dedicated train service) from East St. Louis, Illinois, to Scoville, Idaho, at a charge far below the published tariff rate for DOE movements.

Several factors are considered in formulating a special train charge. When special freight train service is requested, the carrier consummates whatever arrangements may be necessary or required to facilitate the special foreign train movement including assembly of equipment, personnel and other incidental requirements. Aside from the additional management supervision of a special train, other factors such as labor, fuel, material and supplies, equipment, depreciation and other operating expenses comprise the total cost for this extraordinary service.

Question. 2. In your written testimony you mentioned the Hazardous Material Response Information System which by computer, identifies each car of hazardous material in each train, and displays first response procedures. Are you aware of the number of railroads in the United States actually using this system and its rate of effectiveness?

Answer. The Hazardous Material Response Information System is used today by virtually every major railroad in the United States and Canada. Each railroad obtains the computer tape containing the emergency response information from the Association of American Railroads (AAR). The tape is updated regularly to include current data on emergency response and hazardous material identification codes. This data can then be incorporated into each railroad's computer system so the consist or manifest for each train identifies the location of each car of hazardous material and how an incident involving that material should be handled.

The system is very effective. It enables our crews to quickly identify the contents of a car that may be involved in an accident or incident and to determine the potential danger presented by a particular commodity. This system is also beneficial in providing information to local fire departments and other emergency response personnel who are summoned to the scene of an incident.

QUESTIONS OF SENATOR ADAMS AND THE ANSWERS

Question 1. Your testimony makes the request, as did that of the AAR submitted previously, that shippers be explicitly required to notify carriers that they are shipping hazardous material as defined in Title III of the 1986 Superfund Amendments. Your testimony also outlines an impressive program by your railroad to provide information, training assistance and equipment to emergency response personnel general along your routes. Can you tell us why those state and local emergency response personnel shouldn't also have access to that same information?

Answer. Union Pacific is not opposed to providing state and local emergency response personnel general information about the types and quantities of hazardous materials that move through their jurisdictions on an annual basis. This information facilitates emergency response planning and training. However, detailed advance notification (or prenotification) to emergency response personnel of each such shipment would be counterproductive. The emergency response agencies would be inundated with material that was neither useful nor necessary. Communities, nevertheless, would benefit from the railroads receiving the information we are requesting from the shippers. The railroads ask that extremely hazardous substances be identified as such on shipping papers. State and local officials would have access to this information in the event of an accident or incident.

Question 2. In your testimony, you mention that the ICC has ruled that railroads, as common carriers, have a duty to carry nuclear materials as they would any other cargo even if they believe it is too risky to carry. The ICC has also denied efforts by the railroads to require special train treatment and other special services for nuclear cargoes. Later in your testimony you state that high-level radioactive shipments should be shipped only by dedicated trains. Would you please describe the background of the railroads' position on special train treatment and other special services for nuclear shipments, including why the railroads believed that such services are necessary in the first place?

Answer. Union Pacific, and other railroads, have taken the position that the unique, extraordinary risk resulting from the transportation of high-level radioactive spent fuel merit transportation in special trains transporting only this commodity. In a series of decisions, the ICC disagreed with this position, however, finding that mandatory special train service goes beyond the regulations prescribed by other federal agencies responsible for regulating the save movement and packaging of the commodity. Union Pacific and other railroads have also taken the position that dedicated train service is necessary when DOE or DOD require movement of spent nuclear fuel casks at a reduced speed since there are substantial delays to trains which also transport other commodities. Although various fedeal agencies have expressed a high degree of confidence ion transportating high-level radioactive waste in regular train service, the public at large and numerous officials are skeptical. Union Pacific's experience has been that the public has expressed serious reservations about these movements. Nuclear waste is perceived as extremely hazardous. Union Pacific strongly believes that dedicated train service is necessary to ease public concern regarding the transportation of high-level radioactive waste through populated areas. Dedicated train service reduces switching and handling of these loads. It also increases supervision over the material which adds a measure of safety to this transportation and in turn should ease the public concern regarding this transportation.

Question 2a. Would, in your opinion, changes in ICC authority be appropriate to assure the use of dedicated trains?

Answer. The most appropriate action would be for Congress to amend the Hazardous Materials Transportation Act to clearly state the intent of Congress that high-level nuclear materials should move only in dedicated train service. A statutory requirement of this nature would resolve the issue.

Question 2b. Would you please discuss the need for and advisability of special train treatment for other non-radioactive hazardous materials shipments.

Answer. Special train transportation may be advisable for other non-radioactive hazardous materials. Union Pacific is currently considering this issue as part of its review of recent studies commissioned by the Railroad, to determine whether other commodities should be moved in dedicated train service. Union Pacific is also formulating a response to rulemaking proposed by DOT. DOT has requested comments on reclassification and packaging of hazardous materials. As part of this process, DOT is considering whether certain highly poisonous gases should be allowed to move in bulk. DOT's current regulations permit movements of such materials like hydrogen selenide and phosgene only in cylinders or multi-unit tank car tanks commonly referred to as ton containers. If, at the conclusion of its rulemaking in Docket No. HM-181, DOT decides that large quantities of these lethal poison gases may be transported in tank cars with perhaps up to 100 tons of commodity per car, it might be necessary to require special train service for movement of those cars. DOT has indicated that it will propose revised regulations for transportation by various modes, including rail, after it concludes the rulemaking in HM-181. Presumably that rulemaking would consider whether these materials moving by rail should be in special train service. The need for dedicated train service is also being studied with respect to other materials. I serve on a DOD special study group considering the transportation of obsolete chemical munitions. The nature of this material will most certainly require dedicated train service if the material is transported by rail.

Question 2c. In your statement you imply that even though DOE has given public assurances that shipments from Three Mile Island would be by dedicated train they are negotiating with you to try to back out of that agreement. Would you elaborate?

Answer. Union Pacific's negotiated agreement with DOE's contractor provides that the first three loaded movements will be transported in expedited service (dedicated train service) from East St. Louis, Illinois (Union Pacific's interchange point with Conrail), to Scoville, Idaho. Additional shipments are to move in expedited service as agreed to by the parties to the agreement. If the parties do not agree on the necessity or appropriateness of expedited service for additional movements, the railroad may, at its option, provide expedited service at no cost to DOE.

DOE's agreement with Conrail requires expedited train service for all movements while on Conrail from Middletown, Pennsylvania to East St. Louis, Missouri. We strongly feel that the movement of radioactive material must be uniform for the entire route of the movement. There is no apparent explanation for using dedicated train service over the eastern portion of the movement but not the western portion. Citizens in the west would be understandably concerned that they were not being protected by the same precautions as those in the east.

While DOE and its contractor, EG&G of Idaho, Inc., have requested expedited train service for all movements to date, DOE is seriously considering the use of regular train for that portion of the move on Union Pacific. Nevertheless, DOE officials have made statements at public meetings that the makeup of the TMI trains will not be changed. Citizens groups have pressed for assurances that TMI material will move in dedicated train service and DOE has left the public with the impression that it will. DOE, not the railroads, is responsible for the safe disposal of this material. Therefore, DOE must meet its responsibility by convincing the public, which perceives this material to be extremely dangerous, that it can be transported as safely in regular train service as it is in dedicated trains.

Question 3. In your testimony you point to a number of measures that Union Pacific takes to ensure the safety of nuclear shipments that are in excess of Federal requirements including speed limits or DOE specifications. Is there some reason why these should not be followed by, or required of, all railroads carrying hazardous materials?

Answer. The measures taken by Union Pacific when transporting shipments of spent nuclear fuels or high level radioactive waste are based on conditions which may be unique to our operating practices or physical facilities. As such, these measures may not be appropriate for other railroads. The objective must be safe transportation. Certain standards must be established but individual railroads should be premitted to institute more stringent requirements, as they see fit. This approach allows needed flexibility for each carrier to tailor the transportation of these shipments to the territory, terrain, weather contitions and other constraints, as appropriate.

Question 4. The routing of any hazardous material shipment category is a complex task and the problems vary greatly from mode to mode. Regardless, there are concerns over the shipment of such materials through densely populated areas and your own company's concern for emergency response indicates you share some of these concerns. Do you believe that it is possible to designate, for the purposes of assuring adequate emergency response, rail routes for hazardous materials shipments?

Answer. There is far less flexibility in routing hazardous materials shipments by rail than by highway. Routing alternatives are fewer and often a carrier's safest and highest quality track is located in densely populated areas, the locations routing requirements would probably seek to avoid. In addition, while there are numerous points where the systems of different railroads intersect, many of these points are not practical locations for interchanging hazardous materials shipments from one carrier to another. Efforts to route around major interchange points is likely to result in increased switching, delay in transit and risk of accident.

Question 5. Are there any specific aspects of rail shipments of both radioactive and non-radioactive hazardous materials, such as inter-line transfers or packaging requirements that you believe would benefit from changes in federal regulation?

Answer. As I recommended in my testimony before the Subcommittee and in response to a question above, the Hazardous Materials Transportation Act should be amended to require high-level radioactive material shipments moved by rail to be transported in dedicated trains. Other aspects of hazardous material transportation need further examination by DOT. DOT has already undertaken a reexamination of its regulations. Packaging and classification of hazardous materials would benefit from changes in federal regulation. DOT has initiated an examination of both aspects in Docket HM-181. Union Pacific is currently reviewing DOT's 250 page notice of proposed rulemaking and intends to file specific comments on that proposal.

Question 6. Would you please describe how rail carriers fit into the existing Price-Anderson nuclear accident liability scheme and comment on whether this system provides adequate coverage to you as a carrier?

Answer. Railroads are subject to the coverage of the Price-Anderson Act if a "nuclear incident" occurs during the course of transporting nuclear material for the DOE or a DOE cotnractor. The Price-Anderson Act provides railroads with liability protection and a limit on liability in the amount of $500 million for damages suffered by the public as a result of a "nuclear incident" occurring during the course of radioactive materials transportation to or from federally-licensed facilities and federal contractor-operator facilities. Although the Price-Anderson coverage is broad in scope, the interpretation of its provisions is open to question and certain interpretations could adversely affect Union Pacific.

There is a possibility that Price-Anderson coverage might be denied in the event of a rail incident in which there is no release of radioactive materials. It is DOE's view that a carrier would not be indemnified for liability for personal and property damage in such an instance. For example, if an evacuation was ordered as a precautionary measure, Union Pacific could be obligated to bear all of the expenses associated with the evacuation based on a concern that there might be a release of radiation. Congressional action regarding areas of inadequate or ambiguous coverage would be very helpful. It would resolve the ambiguity in favor of precautions that should be taken without fear that liability might be imposed.

Questions of Senator Danforth and the Answers

Question 1. Mr. Dettmann, I'd be interested to hear more about how the rail industry feels about the use of dedicated trains for carrying nuclear materials. Is it necessary for reasons beyond public relations? What concerns you about mixed loads? How would you respond to claims that the railroads are insisting on dedicated trains unnecessarily and then overcharging for dedicated loads?

Answer. The railroad industry believes that every precaution should be taken to insure that high-level nuclear materials are transported safely. Dedicated train service is an integral part of this effort.

The makeup, or consist, of a mixed load freight train will impact the safety of a nuclear material shipment. Mixed freight trains carry such diverse commodities as heavy equipment, flammable liquids and, many times, explosive commodities. If a derailment were to occur, any of these commodities could potentially have a devastating effect on a cask of nuclear material resulting in a release.

The issue is one of safety and the public's concern that all reasonable precautions be taken to prevent a release of radioactive material. For a discussion of the rate issue, please refer to my response to Senator Exon's first question.

Question 2. I'm concerned about nuclear shipments traveling by rail through major population centers like St. Louis and Kansas City. Should there be some sort of rail routing guidelines that would discourage the use of such routes where possible?

Answer. The main lines of railroads naturally connect major population centers because these areas have the greatest demand for our transportation services. Railroad mainlines, as opposed to branch lines constructed to smaller communities, are the lines maintained to much higher safety standards. Therefore, the highest level of safety is provided when nuclear materials shipments move over the best tracks and shortest distances possible. Switching in rail yards is minimized by interchanging these shipments via mainline connections. Discouraging the use of the most direct route would increase the risk of a serious incident.

Questions of Senator Kasten and the Answers

Question 1. What specific concerns do you have about current inspection and enforcement levels?

Answer. The shipments of fuel debris from the damaged reactor at Three Mile Island near Harrisburg, Pennsylvania to the Idaho National Engineering Laboratory near Scoville, Idaho provide a good model for the approporiate level of inspection and enforcement. Prior to the first movement, the FRA conducted a thorough inspection of the entire route. Both the FRA and the rail carriers have continued to inspect the track at intervals required by FRA's track safety standards. The FRA, DOE, NRC and the shipper (DOE's contractor) make a thorough inspection of the cask, car and shipping papers prior to each shipment. The DOE makes an inspection on arrival at destination. The rail carriers make required inspections at point of origin, at the point of interchange and at designated inspection points enroute. Inspection and enforcement at the Federal level appears to be fully adequate. One State in which Union Pacific operates has requested permission to conduct a radiological survey before the shipment enters the State and when it departs. This inspection appears to accomplish little insofar as safety is concerned and could become very burdensome if widely adopted by other jurisdictions.

Question 2. In your experience, what does it take to build public confidence with regard to the safe shipment of nuclear materials? Would increased public education efforts help?

Answer. Increased public education is essential. The delivery of the information is as important as the information itself. DOE must be candid and straightforward with local governments and their constituents. DOE must be responsive to requests from local governments in a timely and uniform manner. DOE has been charged with responsibility for managing high-level nuclear material. Part of that responsibility is educating the public on all the safety precautions that have been taken. Quite frankly, though, the words "radioactive material" generate strong negative emotions toward transportation, storage and handling of this material. Public confidence may be earned through incident free transportation performed with all reasonable safety precautions including dedicated train service.

Senator EXON. Thank you very much.

Let us now proceed with Mr. Charles Mayer.

Mr. MAYER. Thank you, Mr. Chairman.

I too have submitted a written statement and I will briefly run over the content of it in the interest of time. I am sure you will be glad to hear that.

Tri-State Motor Transit Company has been engaged in the transportation of radioactive materials for over 30 years. Since 1976, we have handled more than 60,000 shipments of radioactive materials over an aggregate distance exceeding 60 million miles.

During our entire history of transporting radioactive materials, which dates back to the early 1950's, we have not had a single accident that has resulted in the release of contained material, overexposure or injury, or death to any individual.

Yet, today we are finding it exceedingly difficult to move these materials that are tendered to us and which we are required to transport by law. The problem which we are facing appears to be a result of a departure from orderly regulation of interstate commerce at the Federal level.

It is perplexing to us as a motor carrier that the Federal government has allowed the states and local communities to impose regulations that are counterproductive to safety considerations in transportation. When state and local governments overlay existing Federal regulations or promulgate regulations that are not compatible with neighboring communities, the results are frequently counterproductive to the safety objective.

Individually, state and local regulatory requirements may provide a degree of increased safety in their specific geographical areas, but often at the expense of neighboring communities.

The problem is that there is little or no attempt to integrate or coordinate regulatory activities between the states and the local communities, and this has led to a growing number of conflicting and ambiguous regulations as we move long distance throughout the country.

We have no quarrel with state and local regulations that effectively enhance safety and emergency response. We do, however, feel that these regulations should be channeled through a single Federal agency, charged with the responsibility of regulating interstate commerce.

If the Federal government preempts states and local regulations, it will have the effect of eliminating inconsistent and unnecessary regulations and the exporting of perceived hazards by one community to another.

Federal guidelines are not only necessary to establish a uniform regulatory environment throughout the country, but they are also necessary to establish uniform standards in training and quality control by carriers engaged in the transportation of hazardous materials. We feel that if this is done it will eliminate the need for state and local communities to impose their own requirements.

Title 49 of the U.S. Code of Federal Regulations, Parts 390 through 399, entitled "Federal motor carrier safety regulations," presently sets forth safety standards applicable to motor carriers. These can be enlarged upon with greater emphasis on hazardous materials.

Probably the most critical problem is enforcement of regulations. Considering budget constraints at the Federal level, we feel that maybe these rightfully should be enforced by the states under the supervision of a Federal agency.

[The statement follows:]

STATEMENT OF CHARLES H. MAYER

My name is Charles H. Mayer, and I represent Tri-State Motor Transit Co. ("Tri-State"). I am currently Tri-State's Vice-President of Marketing. Prior to this position, which I have held for approximately one year, I was the Vice-President of Nuclear and Hazardous Materials. I have been involved with the highway transportation of radioactive materials since joining Tri-Stae in 1968.

My comments here are primarily limited to one overriding concern, and that being the regulatory environment of hazardous materials transportation.

Tri-State is a motor common carrier which was incorporated in 1931 under the laws of the State of Delaware. We started our transport business in the three-state area of Missouri, Kansas and Oklahoma. Today we operate nationwide by authority granted us by the Interstate Commerce Commission under Docket No. MC-109397 and Subs.

We have more than 1100 employees (not including contractor drivers), over 1200 power units (including contractor units) and more than 2300 company owned trailers.

We have been engaged in the transportation of radioactive materials for over 30 years. This includes virtually all types of materials associated with the nuclear fuel cycle. From 1976 to date we have moved more than 60,000 radioactive shipments over an aggregate distance of exceeding 60,000,000 miles.

During our entire history of transporting these types of materials, which dates back to the early 1950's, we have not had a single accident that caused the release of contained material, or resulted in the overexposure, injury or death of any individual. Yet, today, we find a growing problem with the interstate movement of radioactive materials. This can best be described as a departure from orderly Federal regulation of interstate commerce.

What has been allowed to occur in the area of interstate transportation of radioactive materials is serious and should not be taken lightly. It challenges the concept of interstate commerce as we have known it, it opens the door to state and local regulators to impose requirements on other types of interstate shipments by precedence, and further challenges the regulatory authority of the Federal Government granted it by the Constitution of the United States.

Section 1, Article 8, Clause 3, known as the Commerce Clause of the Constitution of the United States, is a simply worded statement reading in part, "The Congress shall have the power, among other things, to regulate commerce with foreign nations and among the several states, and with the Indian Tribes". Although not couched in the legal phraseology used today, its meaning is none the less clear, and the intent of Congress is evident when it authored this provision. It is, therefore, perplexing that the unprecedented invasion by state and local governments into what was previously the regulatory domain of the Federal Government has been allowed.

When state and local governments overlay existing Federal regulations, or promulgate regulations that are not compatible with neighboring communities, the results are frequently counter-productive to the objective of maintaining an efficient and safe transportation system.

Individually, state and local regulatory requirements may provide a degree of increased safety in their specific geographical areas, but often at the expense of neighboring communities.

The problem is that there is little or no attempt to integrate or coordinate regulatory activity between state and local communities. This has led to a growing number of ambiguous and conflicting requirements that are causing increased risks to hazardous material shipments.

We have no quarrel with state or local regulations that effectively enhance safety and emergency response. We do, however, think that these requirements should be channeled through a single Federal agency charged with the responsibility of regulating interstate commerce. If the Federal Government preempts state and local regulations, it will have the affect of eliminating inconsistent and unnecessary regulations and the exporting of perceived hazards by one community to that of another.

When state and local regulations impede the movement of radioactive materials by restricting day and time of travel, or force shipments to circumvent geographical areas over circuitous routes, the accident risk potential is increased.

Federal guide lines are not only necessary to establish a uniform regulatory environment throughout the country, but are also necessary to establish uniform standards of training and quality control by carriers engaged in the transportation of hazardous materials, thus eliminating the need for states to impose their own requirements.

Title 49 of the U.S. Code of Federal Regulations, Parts 390-399 entitled Federal Motor Carrier Safety Regulations, presently sets forth safety standards applicable to motor carriers. These can be enlarged upon with a greater emphasis on hazardous material transportation.

Probably the most critical problem is enforcement. Regulations must be enforced if they are to be effective. Considering budget constraints at the Federal level and the vested interest of the states, enforcement can, and probably should be, carried out by state officials under Federal supervision.

In summary, Tri-State Motor Transit Co. urges the adoption of a single Federal regulatory agency governing the movement of radioactive and other hazardous materials in interstate commerce. It would also support tighter Federal standards applicable to carriers engaged in the transportation of hazardous classed materials. The recent Federal driver license requirement is a step in the right direction, and we would support any further actions designed to reasonably meet safety objectives.

[The following information was subsequently received for the record:]

TRI-STATE MOTOR TRANSIT CO.,
Joplin, MO, July 10, 1987.

Senator ERNEST F. HOLLINGS,
Chairman, Committee on Commerce, Science, and Transportation,
Washington, DC.

DEAR SENATOR HOLLINGS: This is in response to the questions contained in your letter dated June 5, relating to the above subject hearing.

In answer to the request for state regulations that I feel conflict with those of the Federal Government, I submit the following example we are currently involved with.

Several weeks ago the U.S. Department of Energy tendered us several shipments of spent nuclear reactor fuel (classified as large quantity of radioactive material) from their facility at Mercury, Nevada to Idaho Falls, Idaho.

Initially, the Nevada Department of Transportation specified in their overweight permit, issued to us, the highway route of US 95 through the City of Las Vegas to Interstate 15, this being the shortest and most direct route to an interstate highway.

They later rescinded this route and reissued their permit specifying US 95 to US 6 to US 50 to Interstate 15.

The U.S. Department of Transportation has now charged us with violating HM 164 routing rule by not following the original route through Las Vegas.

The State of Connecticut limits the movement of radioactive materials to the hours of 0900 and 1600 with no travel on weekends or holidays. This can conflict with the unnecessary delay provision of Title 49, Part 177.853 of the U.S. Code of Federal Regulations and HM 164.

It can also result in excessive miles traveled, thus causing increased public exposure to potential accident risk.

Attached are summary sheets [1] of various state requirements that our Operations people use to keep abreast of requirements when handling radioactive material shipments.

None of these requirements directly conflict with Federal requirements, however in the aggregate they do impose an excessive burden on us which may be deemed in conflict with Section 112 of the Hazardous Materials Act. The conflict here lies in the preemption of state requirements where commerce is unreasonably burdened.

With regard to suggestions as to how the Federal program might be improved, it is my opinion that Federal regulations as presently established are adequate. Enforcement of these regulations however can be improved by working in close concert with state agencies.

Senator Danforth has asked what steps my company takes to maximize the safety of nuclear materials transportation.

In answer to this question I would like to point out that nuclear transportation safety is a system comprised of regulators, shippers and carriers. Specifically, nuclear transportation starts with packaging requirements set forth by the Nuclear Regulatory Commission which enable packages to meet the severest of accident conditions. Next, shippers have demonstrated the capability and willingness to comply with these packaging standards. Finally, there is Tri-State that assigns drivers with known safety records and who have been given training in proper transportation and emergency procedures. We also have our own in-house emergency response program supervised by a qualified Health Physicist.

The question was brought up about truck transportation of nuclear materials since highway accidents are higher than those of other modes. It is my opinion highway transportation is safer than movement by railroad. One need only look at a train configuration and consider the tremendous forces that are involved in a railroad accident to understand why I make this statement. Railway accidents are extremely distructive and frequently involve large quantities of hazardous material of various types. In a highway accident, the forces are magnitudes less than that of a railroad accident, and probably involve only one or two vehicles, subjecting the packaged material to considerably less damaging force. Also, a highway accident would be much easier to respond to and control. How many times have we read in the news that a community had to be evacuated as a result of a railroad accident involving hazarous materials. It is rare that evacuation is required as a result of a truck accident.

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[1] Pertinent extracts are printed, the balance is in the Committee files.

I believe I have covered all the questions submitted, and hopefully these answers are satisfactory. If additional information is required, please feel free to let me know.

Very truly yours,

CHARLES H. MAYER,
Vice President. Marketing.

CALIFORNIA

No driver shall haul fissile class III or HRC RAM without a valid license of the appropriate class and a radioactive material driver certificate issued by the Dept. of Motor Vehicles.

COLORADO

A permit is required for all HRC or Hi level waste or waste going to the sites in New Mexico. Permit requires an application from the state giving certification of driving training, clean up plan, proof of liability insurance, and the permit must be in the vehicle.

CONNECTICUT

A permit is required for all Ram material requiring a placard, HRC quantities, or any RAM waste produced as part of the nuclear fuel cycle.

Permit specifies: 2. Time of travel (0900–1600, NO weekends or holidays)

GEORGIA

A permit is required on all exclusive use, spent fuel, HRC shipments of radioactive material going into, out of, or thru the state of Georgia.

IDAHO

All placarded Haz Mate loads will require a $5.00 Haz Mate endorsement to be purchased at the port of entry. If the load is also a waste shipment an additional $20.00 permit is required, also purchased at the POE.

MAINE

Transporters must notify the Chief of State Police 24 hours in advance of any low-level waste shipment.

MICHIGAN

Specific regulations pertaining to spent fuel and HRC quantities require certification of a vehicle inspection by a law-enforcement agency within 6 months of a shipment.

MISSISSIPPI

Shipper requirements for radioactive waste are as follows:

1. must secure a RAM permit to ship into, out of, or thru the state. Annual fee $500.00 Class B, $2500.00 Class A.

NEVADA

All carriers of radioactive material must obtain a permit from the Public Service Commission.

Carriers of RAM waste must notify the state between 4 and 48 hours prior to movement into, out of or thru the state.

A permit is required to transport Haz Mat in Nev.

NEW HAMPSHIRE

A trip permit $15.00 or an annual permit $25.00 is required for all placarded load of Haz Mat, Haz substance or Haz waste including radioactive material.

NEW JERSEY

RAM shipments are prohibited on the NJ turnpike without a permit.

A certificate of handling or a certification number is required before shipments of the following material.

Spent Fuel of any kind requires a certificate of handling.

NEW YORK

Overweight RAM shipments requires a special inspection of the tractor and trailer prior to movement of HRC or Hi-level RAM.

Prior written certification to the state is required for any overdimensional RAM shipment.

All trucks transporting LLRW into within or through New York State must have a valid transport permit pursuant to 6 NYCRR Part 364.

Does not recognize sleeper time for 2 man operations.

OREGON

Carriers are required to register with the state. A permit is required for all placarded radioactive loads.

The state must be notified on spent fuel shipments on entering the state and when the vehicle leaves the state, and must receive an inspection by the state, and have a valid permit from the state.

RHODE ISLAND

RAM loads requiring placards, including HRC quantities, and nuclear fuel cycle waste, require a permit.

VERMONT

The state requires 48 hour prior notice by the shipper or carrier of quantity, date & time of shipments for HRC quantities, spent fuel, fissile material and truck load lots of waste RAM.

VIRGINIA

The state requires registration by the shipper and carrier before shipment of Haz radioactive material.

The carrier must have routes approved by the state prior to movement of material exceeding 100 REM/hr at 3 feet before shielding.

WASHINGTON

All shipments of radioactive waste destined for US Ecology, Hanford WA. must stop at the port of entry at either Spokane or Plymouth WA for a safety inspection.

The state requires 4–48 hour prior notice of all shipments of waste for US Ecology prior to arrival at the port of entry.

Senator **Exon**. Mr. Mayer, thank you very much.

Next will be Mr. Robert Bishop. Mr. Bishop, welcome to you.

Mr. **Bishop**. Good afternoon, Mr. Chairman, Senator Adams.

By way of introduction, I am special counsel to the Executive Vice President of Northeast Utilities. I also chair the Electric Utility Companies' Nuclear Transportation Group. I am appearing on behalf of that group, and on behalf of the American Nuclear Energy Council, the Atomic Industrial Forum, and the Edison Electric Institute. Together, these groups represent virtually all of the electric utilities in the country with nuclear energy programs.

And I also, because of the hour, will try to summarize my comments that have been submitted.

The message I would like to convey to you today is that the Hazardous Materials Transportation Act should be reauthorized. There is a comprehensive Federal regulatory structure governing radioactive material transport of which the MHTA is an integral part, and it has well served the public.

The public interest is indeed well served by any act that will promote the safe, efficient, and economical transport of these materials. Indeed, in the over 20 years that radioactive materials have been transported in this country, which includes over 6,000 shipments of spent fuel, as Mr. Mayer mentioned, there has not been a single accident resulting in the release of radioactive materials that posed any threat to public health and safety or the environment.

This exemplary safety record is not mere happenstance. Rather, I believe it is the result of the comprehensive system which is consistent with international standards and which also allows for appropriate state and local regulation.

One of the stated goals of HMTA is to establish one Federal agency with the authority to issue regulations governing every aspect of hazardous materials shipments, thereby promoting regulatory consistency at the Federal level.

Congress also mandated that the regulations promulgated by that agency, the U.S. Department of Transportation, would preempt inconsistent state and local regulations. The uniformity of regulation brought about by the HMTA has proven to be crucial in promoting safe shipment, because it minimizes the potential for a multiplicity of redundant and conflicting regulations, carrier confusion, delays, increased costs, and unnecessary diversions of shipments, none of which is in the public interest because of their possible detrimental effect on safety.

The DOT's highway routing rule for radioactive materials transport is an excellent example of DOT's exercise of its authority under the HMTA in a manner that meets the goals of the Act. It provides for the use of such roads as will best protect public safety while allowing necessary transport to take place.

Yet, it provides states, localities, and even Indian tribes with the opportunity to designate alternate routes within their jurisdiction to take account of local conditions.

It is based on DOT's expert judgment that it represents the best accommodation of their statutory responsibilities and the needs of the public at large.

In the areas of emergency response training and preparedness, DOT is one of several Federal agencies that shares responsibility. I believe that additional resources could and should be appropriated to effectively enable the cognizant Federal agencies to better develop and coordinate their resources and to strengthen their cooperative programs with state and local governments.

Time has proven that the HMTA well serves the nation, through the authority provided to DOT to carry out its responsibilities to ensure the safe transport of radioactive materials.

HMTA should be reauthorized and DOT's authority thereunder confirmed and strengthened. Moreover, Congress should provide DOT with the necessary resources to ensure that radioactive materials transportation is able to continue in a safe, efficient, and economical manner.

I believe that is in the best interests of our customers and of your constituents.

Thank you, Mr. Chairman.

[The statement follows:]

TESTIMONY OF
ROBERT W. BISHOP
SPECIAL COUNSEL, NORTHEAST UTILITIES

ON BEHALF OF
ELECTRIC UTILITY COMPANIES' NUCLEAR TRANSPORTATION GROUP
AMERICAN NUCLEAR ENERGY COUNCIL
ATOMIC INDUSTRIAL FORUM
EDISON ELECTRIC INSTITUTE

I am Robert W. Bishop, Special Counsel to the Executive Vice President - Engineering and Operations of Northeast Utilities. Northeast Utilities' system companies provide electric service to almost a million customers in Connecticut and Massachusetts. As part of our diverse electric supply system, we have an ownership interest in and are responsible for the operations of the four nuclear power plants located in Connecticut. In order to operate those plants, it is crucial that we be able to transport radioactive materials to and radioactive waste from the plants in a safe and efficient manner.

My testimony is presented on behalf of the Electric Utility Companies' Nuclear Transportation Group (the "Nuclear Transportation Group"), the American Nuclear Energy Council ("ANEC"), the Atomic Industrial Forum ("AIF"), and the Edison Electric Institute ("EEI"). I am chairman of the Nuclear Transportation Group, which consists of 33 utilities responsible for 97 nuclear power plants in the United States. The Nuclear Transportation Group was formed in 1978 because of a growing concern among utilities about actions being taken by state and local governments that could hamper or preclude our ability to safely and efficiently transport nuclear fuel cycle materials. The Group has proven to be valuable in facilitating communications among utilities so that we can learn from each others' shipping experiences and to ensure that common concerns are brought to the attention of appropriate federal and state agencies. For example, the Nuclear Transportation Group assisted the Office of Technology Assessment ("OTA") during the preparation of its study on the Transportation of Hazardous

Materials ("OTA Report") to ensure that the utility industry's experience and concerns with respect to the transportation of radioactive materials were brought to OTA's attention. The Nuclear Transportation Group also has taken an active role, on behalf of the utility industry, in assisting the U.S. Department of Energy ("DOE") in its implementation of the transportation-related provisions of the Nuclear Waste Policy Act of 1982 ("NWPA").

EEI is the national association of investor-owned electric companies. Its members serve approximately seventy-three percent of all ultimate consumers of electricity in the nation. ANEC represents over 100 organizations having an interest in nuclear energy, including investor, public and cooperatively-owned utilities, manufacturers, architect-engineers, and various firms involved in the nuclear fuel cycle. AIF is an association dedicated to the development of the peaceful uses of atomic energy. Its approximately 400 United States members include electric utilities, as well as manufacturers, architect-engineers, constructors and consultants.

Under the Hazardous Materials Transportation Act of 1974 ("HMTA"), the U.S. Department of Transportation ("DOT") is responsible for ensuring the safe transportation in commerce of the approximately 30,000 hazardous materials that are manufactured, transported and used in the United States, of which radioactive materials are just one. On the other hand, radioactive materials are different from other hazardous materials, because their use and transportation also is regulated by the U.S. Nuclear Regulatory Commission ("NRC") under the Atomic Energy Act of 1954, as amended. The relative responsibilities of the DOT and NRC with respect to regulation of the packaging and transport of radioactive materials are set forth in a Memorandum of Understanding signed by the two agencies in 1979. No other hazardous materials are subjected to the same level and sophistication of regulatory control as are radioactive materials.

This comprehensive regulation of radioactive materials transport, as well as the care with which utilities and other shippers treat these materials, has resulted in an exemplary safety record. The transportation of radioactive materials, including spent nuclear fuel, has been taking place, both nationally and internationally, for many years. The safety record for these shipments in not only exemplary, it is far better than that for virtually all other hazardous materials In this regard, the OTA Report states that "OTA finds the technical evidence in cask performance and service indicate that NRC performance standards yield spent fuel shipping cask design specifications that provide for a very high level of public protection - much greater than that afforded in any other current hazardous material shipping activity."

The transportation of nuclear fuel cycle materials comprises one-tenth of one percent of the approximately 100 million hazardous materials shipments made each year. On average, spent fuel shipments comprise approximately 0.0003 percent of the hazardous materials shipments made annually, yet the public perception of relative hazard is far from being in those proportions. Thus, the attention devoted to radioactive material transportation with respect to actual experience is far different than the attention being devoted to the transportation of any other potentially toxic or hazardous material being transported, including materials that historically have caused deaths and injuries, significant property damage, and major public disruptions, such as the evacuation of thousands of people.

The fact that more than 6,000 shipments of commercial spent fuel have been made in the United States to date without radiological incident is frequently lost in the discussion. While it is possible to hypothesize a transportation accident that could have significant consequences to the health and safety of the general public, both the shipment experience to date and the design of the NRC-licensed containers -- generally called "casks" -- used to,transport spent fuel suggest that the risk, measured in terms of the probability times consequences of such an event, is extremely small. As the OTA Report stated, "OTA concludes that the probability of an accident severe enough to cause extensive damage to public health and the environment caused by a radiological release from a properly constructed cask is extremely remote." In fact, a Sandia National Laboratories study concluded, based on a simulated sabatage attack on a spent fuel cask in a densely-populated urban area, that only .0006 percent of the cask contents would be released and the expected public health consequences would be no early fatalities and 0.2 latent cancer fatalities over the next thirty years. (Note: it is estimated that approximately 250,000 other cancer fatalities would develop in that population from other causes over the same time period).

Despite the actual safety of radioactive materials shipments, if the general public does not believe that these shipments can and will be conducted in a safe manner, opposition to these shipments can be expected to mount. Indeed, I believe that the large number of state and local laws and regulations that have been passed to ban or severely restrict transportation of these materials stems in large part from a misunderstanding of the actual risks of such transportation. This divergence between actual risk and perceived risk promises to broaden due to concern over the prospect of increased shipments in the future. In fact, the anticipated volume of spent fuel shipments that will be made by the DOE pursuant to its responsibilities under the NWPA already has heightened public interest in and concern about the transportation of spent fuel and high-level radioactive waste, leading to legislative proposals at both the state and federal level. In addition, the siting of additional regional low-level waste disposal facilities pursuant to the requirements of the Low Level Radioactive Waste Policy Act Of 1980, as amended, has heightened concern about shipments of low-level radioactive waste, which also has lead to legislative and regulatory initiatives at both governmental levels.

The frequent result of the imposition of state and local restrictions on radioactive materials transportation is to create the very real possibility of increased risks in neighboring communities. In addition, this creates a substantial burden on interstate commerce by making it difficult, if not impossibile, for shippers and carriers to successfully comply with conflicting and frequently contradictory and even mutually exclusive restrictions. This is precisely the type of regulatory action, with its detrimental effect on safety, that the legislative history of the HMTA demonstrates was of major concern to the Congress. To eliminate the possibility of a multiplicity of state and local regulations, section 112(a) of the HMTA expressly preempts any state or local transportation requirement that is inconsistent with the HMTA or a regulation issued thereunder by the DOT.

The political controversy with which this issue has become imbued should not be allowed to compromise the integrity of the statutory and regulatory framework governing radioactive materials transport. As the U.S. District Court stated in City of New York v. DOT, "the national interest ... requires courageous regulation in the face of public opposition on issues commanding extraordinary media attention."[1/]

I would now like to address some specific issues with respect to radioactive materials transportation that I

[1/] City of New York v. DOT, 539 F. Supp. 1237, 1293 (S.D.N.Y. 1982), rev'd, 715 F.2d 732 (2d Cir. 1983), cert. denied, 465 U.S. 1055 (1984).

understand are of particular interest to the Subcommittee: routing of radioactive materials shipments, emergency response preparedness and training, prenotification, the need for public information, and inconsistency proceedings.

ROUTING

Under the HMTA, the DOT has the explicit responsibility and authority to promulgate routing requirements for shipments of hazardous materials by any and all modes of transport. One of the achievements of the HMTA was to place the authority for regulating the various modes of transport under a single agency. With respect to radioactive materials, the DOT exercised this authority by promulgating a comprehensive highway routing rule, known as "HM-164". The validity of that rulemaking was upheld on judicial review by the United States Court of Appeals for the Second Circuit and the United States Supreme Court. In very basic terms, the rule requires the use of preferred highway routes for shipments of spent fuel and other high-level radioactive materials. Preferred routes consist of the Federal interstate highways, including beltways or bypasses around urban areas when available. However, the rule further provides that states may designate an alternative preferred route for shipments within their jurisdictions if they do so in accordance with the procedures set forth in the rule, which are intended to protect public health and safety by giving the States the opportunity to modify preferred routes to take account of local conditions. Thus, the rule provides a uniform framework for the highway routing of spent fuel, yet provides the States an opportunity to make an appropriate exception to the general requirements if they conclude, based on site-specific factors, that an alternate route would be preferable from a public safety standpoint. In so doing, States are required to consult with affected localities and neighboring States to ensure the continuity of routes. I think it is important to note that DOT concluded that routing concerns are best addressed at the State level, through consultation with affected localities, rather than at the local level because of the broader perspective of State jurisdictions, and because of the burden on commerce that would be created if each of the several thousand localities were to independently enact uncoordinated routing requirements.

In my opinion, the rule strikes an appropriate balance between the goals of national uniform regulation in support of safety set forth in the HMTA, and the need to accommodate state and local concerns. Unfortunately, there is no mechanism for DOT to resolve disputes between the States that may occur if each State attempts to designate an alternate preferred route within its jurisdiction, but the routes do not meet at the border. Absent such a mechanism, disputes can be resolved through requests to DOT for inconsistency rulings or nonpreemption rulings under § 112 of the HMTA, which I will discuss below, or judicial proceedings. In general, I believe that HM-164 has been demonstrated to be a significant step forward and serves as a good model for highway routing regulations, if deemed necessary, for other hazardous materials.

Although the DOT clearly has the statutory authority to promulgate a similar routing rule for rail shipments of radioactive materials, it has decided that such a rule is neither necessary nor appropriate to enhance public safety. Rail routing decisions traditionally have been made by the shippers and carriers, taking into consideration, among other things, the quality of the track and the number of required interchanges. States and localities traditionally have not exercised regulatory authority over rail routing, in contrast to the highway mode. For these reasons, as well as others, I think DOT has made the correct decision not to take the authority away from the shippers and carriers to make the appropriate rail routing decisions in compliance with DOT safety standards.

The majority of spent fuel that will be transported by DOE under the NWPA beginning in 1998 is expected to move by rail. If DOE, in planning for shipments under the NWPA, concludes that a rail routing rule would enhance the safety of such shipments, it can consult with DOT pursuant to the Memorandum of Understanding executed between the two agencies to determine whether a rulemaking proceeding should be initiated. However, contracts between DOE and the rail carriers are the likely mechanism by which rail routes to be used for particular shipment campaigns would be addressed, if circumstances require. Similarly, if DOE determines that the circumstances of a particular movement require that the rail carrier provide some type of service features above those normally required to ensure safe transport, DOE can address this concern in its contract with the rail carrier. This is the approach that has been taken by utilities that have engaged in shipping campaigns, and it has proven to be an effective mechanism to address movement-specific issues. In any event, we do not support the promulgation of regulations that require or permit rail carriers to impose any service features on shipments of spent fuel unless such features are technically justified as necessary to ensure safe transportation.

EMERGENCY RESPONSE PREPAREDNESS

Although state and local personnel will be first on the scene when an accident occurs during the transportation of radioactive materials, extensive backup assistance is available from the federal government. Pursuant to the Federal Radiological Emergency Response Plan, published by the Federal Emergency Management Agency ("FEMA") in November 1985 (50 Fed. Reg. 46, 542), the emergency response resources of the participating federal agencies (which include DOT, DOE, and NRC) are coordinated and will be made available on request of a state, shipper or carrier to FEMA or directly to an individual federal agency.

Private industry also has developed programs to ensure timely and appropriate response to a transportation accident involving radioactive materials. For example, the Institute of Nuclear Power Operations ("INPO") has developed a voluntary mutual assistance agreement that has been signed by 54 electric utilities. This agreement defines the terms and conditions under which a utility that is responsible for a shipment of radioactive materials could call upon a utility closer to the scene in the event of an accident to respond as needed.

Despite the extensiveness of the existing federal emergency response program, and the level of coordination between the numerous federal agencies with responsibilities for emergency preparedness, there is still room for improvement. In this regard, the DOT and the Federal Emergency Management Agency executed a Memorandum of Understanding on April 23, 1987 to delineate the respective roles and responsibilities of those agencies with respect to emergency preparedness associated with the transportation of hazardous materials and to establish joint programs for planning and training and information development, dissemination and exchange. The implementation of this Memorandum of Understanding should help to ensure that appropriate attention is given to this important aspect of transportation and that these activities are coordinated with the already existing emergency response capabilities of the federal government developed by the DOE and the NRC.

EMERGENCY RESPONSE TRAINING

Training of state and local personnel to respond to emergencies occurring during the transportation of radioactive materials should be part of a comprehensive effort to ensure that first responders are trained properly to respond to all accidents involving hazardous materials, and need not be specifically focused on radioactive materials. As the OTA

Report observed, and I concur, there always could be better coordination between federal and state agencies in providing comprehensive hazardous materials training. To ensure that training on the state and local level is adequate and uniform, which I believe will enhance safety, the federal government could and should play a dominant role in providing training and the necessary funding to accomplish appropriately focused training. Such a program could significantly reduce the perceived need by some states to create and train independent emergency response teams and to levy fees on shipments of radioactive materials for the asserted purpose of funding these independent emergency response programs. In my opinion, the likely result of the imposition of state and local fees will be to divert and delay shipments, thereby increasing time in transit, which DOT has found to be detrimental to public safety, and imposes an undue burden on interstate commerce. Moreover, imposing fees on radioactive materials shipments, as opposed to imposing them on all hazardous materials shipments, is unjustified, especially because the incremental costs to training personnel to respond to radioactive material transport accidents the costs of developing a comprehensive training program covering hazardous materials in general would be very small, and likely unmeasurable.

THE NEED FOR PUBLIC INFORMATION

With respect to the question of the need for public information regarding the transportation of radioactive materials, as I noted previously the perceived risk of these shipments often has no relationship to the actual risks. We firmly believe that education of the public on such topics as the nature of radioactive materials, the manner in which they are shipped, and the regulations governing such shipments is crucial to help alleviate public concern and gain public acceptance. Based on the utilities' experience to date, the institution of a public information program prior to the initiation of a shipping campaign has proven extremely successful in alleviating public concern and has helped to ensure that the shipments take place safely, smoothly and efficiently. We therefore strongly support outreach efforts by the DOT and others to help inform State and local officials as well as the general public on radioactive materials transportation issues.

INCONSISTENCY PROCEEDINGS

As I mentioned previously, under § 112(a) of the HMTA, state or local requirements that are inconsistent with the HMTA or the regulations issued thereunder by the DOT are preempted.

A finding of inconsistency may be made by the DOT or a federal district court.[2] DOT has issued a number of inconsistency rulings focused on the transport of radioactive materials addressing such issues as packaging design standards, routing, emergency response plan preparations, written notification, permits and fees. These rulings serve an important purpose because they provide both shippers and carriers of radioactive materials, and state and local governments, with guidance on the types of state and local transportation requirements that present an obstacle to the accomplishment and execution of the goals of the HMTA. DOT's rulings, however, are only advisory opinions and do not have the force or effect of law. Based on the Group's participation in several inconsistency proceedings, we believe that it is necessary for Congress to strengthen DOT's authority to issue inconsistency rulings and to accord such rulings the status of final agency orders of binding effect. By strengthening and confirming DOT's authority to issue such rulings, the public and the transportation industry will benefit.

PRENOTIFICATION

Section 301(a) of Pub. L. 96-295 directed the NRC to promulgate regulations providing for timely notification to the Governor of any State prior to the transport of nuclear waste, including spent nuclear fuel, to, through or across the boundaries of such State. Acting pursuant to this directive, the NRC published a final rule effective July 6, 1982 that requires licensees to notify Governors or their designees prior to beginning shipments of spent fuel within or through their states. NRC regulations require that shipment schedule information be protected from unauthorized disclosure until after the shipments have been completed. A question I cannot answer is whether prenotification triggers any additional degree of emergency preparedness by state agencies and whether the costs associated with this system are exceeded by the benefits derived therefrom. Prior to considering the imposition of these requirements for shipments of other hazardous materials, the Subcommittee might want to evaluate this question.

In conclusion, I would like to make the following points:

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[2] National Tank Truck Carriers, Inc. v. Burke, 608 F.2d. 819 (1st Cir. 1979).

- The public at large is best protected by the establishment of a national, uniform, comprehensive regulatory system, and in my judgment that system largely exists today for radioactive materials and has proven its value and workability. State and local concerns can be appropriately accommodated within that framework, but it is critical to our ability to safely, prudently and economically transport these materials that a national, uniform, comprehensive regulatory system be maintained.

- There must be national, uniform federal standards for the packaging and transportation of these materials which preempt inconsistent state or local regulations to prevent the chaos which will surely result if each state, local or tribal government is permitted to enact and enforce its own regulations without any concern for the possible effects on other jurisdictions.

- Shippers, whether utilities, the federal government or others, must be able to use any or all available modes of transportation in order to be able to choose the most advantageous one, from the standpoint of safety, efficiency and cost, as individual circumstances may dictate.

- State, local and tribal officials should participate within the framework of the DOT's highway routing regulations and other applicable laws to ensure that particular local circumstances (e.g., degraded or perilous highway conditions, unsafe bridges) are properly accommodated.

- No regulatory requirement should be established, modified or eliminated without a sound technical justification.

For these reasons, we support the reauthorization of the Hazardous Materials Transportation Act. We encourage the Subcommittee to strengthen the Hazardous Materials Transportation Act by providing a clear delineation of federal, state and local governmental responsibilities so as to provide greater understanding of their respective jurisdictions and decrease the current conflict over the scope and extent of preemption.

Thank you for the opportunity to present our views on the current Federal statutory and regulatory program governing the transportation of radioactive materials, its relationship to State and local requirments, and the issues raised in the OTA Report. I would be pleased to answer your questions.

Response to Question from Senator Exon

Q. In your written testimony you mention that the Federal Government should play a dominate role in providing training and the necessary funding to accomplish appropriately focused emergency response training. Where would you suggest these funds come from and how would you recommend they be disseminated?

A. I believe that the training of state and local personnel to respond to emergencies occurring during the transportation of radioactive materials should be part of a comprehensive effort to ensure that first responders are trained properly to respond to accidents involving all hazardous materials, and should not be focused exclusively on radioactive materials. This premise is based on several underlying facts. First, as noted in the Summary of the Office of Technology Assessment's ("OTA") Report, Transportation of Hazardous Materials, radioactive material shipments comprise only 2 to 3% of the hazardous materials shipments made annually in this country, and shipments associated with nuclear power, which appear to be the focus of much of the public concern, comprise only 4% of the packages of radioactive materials shipped annually (thus approximately 0.1% of hazardous materials shipped). As OTA observed, spent fuel shipments represent less than 0.001% of the total number of annual hazardous materials shipments and ". . . the probability of an accident involving spent fuel is very low." OTA Report Summary at 42. OTA also observed that "technical evidence and cask performance in service indicate that NRC performance standards yield spent fuel shipping cask design specifications that provide for a very high level of public protection - much greater than that afforded in any other hazardous materials shipping activity." *Id*. at 43.

Second, in contrast to other hazardous materials, shipments of high level radioactive materials, including spent fuel, are made in containers that are designed to withstand serious accidents without the dispersal of their radioactive contents. Although most shipments of low level radioactive materials are not made in accident-resistent packages, this is because the radiological hazard presented by the potential exposure to or contamination from the material is very small such that a release of these materials in the event of an accident would not pose a significant risk to public health and safety.

Third, the type of first-on-the-scene response needed by state and local authorities if an accident occurs during the transportation of radioactive materials differs very little from that required in the event of an accident occurring during the transportation of other hazardous materials - e.g., restricting access to the area, administering to individuals who were injured in the accident, and summoning expert assistance if circumstances warrant. As noted in my prepared testimony, if an accident were to occur during the transportation of radioactive materials, extensive backup assistance is also available on request from the federal government.

With respect to funding, I believe strongly that additional resources should not be committed to any governmental activity, including emergency response training, unless there is a demonstrated need. As OTA reported, there is already a significant commitment of resources to state and local emergency response training for hazardous materials transportation accidents. The Federal Emergency Management Agency, the U.S. Department of Transportation and the U.S. Department of Energy ("DOE") have developed several emergency response training programs that are available to State and local personnel. OTA has concluded that these Federal programs need to be better coordinated and managed and that, in its judgment, $5 to $7 million in additional resources would be necessary for adequate Federal assistance. Assuming that OTA's conclusion is accurate, Congress should consider providing these funds through appropriations to the cognizant agencies.

The OTA Report mentioned several other potential sources of funding, including a fuel tax, user fees, the Nuclear Waste Policy Act ("NWPA"), and the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund). I do not endorse any of these alternatives and believe that emergency response training is an appropriate governmental police power function and thus should be supported through local, state or federal general appropriations. With that caveat, I would like to make several observations with respect to the different funding alternatives that were mentioned.

If a fuel tax or user fee were to be implemented, it should be implemented at the federal level, applied across-the-board to all shipments of hazardous materials, and preempt a fuel tax or user fee that might be levied by State or local governments. The imposition of State and local requirements of this type have the potential to divert and delay shipments, which has the effect of decreasing public safety. The provision of any additional federal funding to the States should be tightly managed and controlled to ensure that the States are appropriately utilizing the funds and disseminating a significant portion of them to local governments. State and local governments should be required to utilize available federal programs to the maximum extent possible to ensure uniformity of training and a minimum of redundancy. In addition, as suggested in the OTA Report, federal funds should be provided to the States under a matching program to ensure that States are making use of available regional and local resources.

Finally, it would be inappropriate under any circumstance to utilize Nuclear Waste Fund monies collected under the NWPA at this time as a federal funding source for State and local emergency response training for transit states. Shipments by DOE under the NWPA will not begin until 1998, more than 10 years from now, and even then will not be a significant percentage of the millions of hazardous materials shipments made annually. Further, there is no rational basis for requiring nuclear utilities to foot the bill for comprehensive emergency response training for transportation accidents involving all hazardous materials. Questions of the need for additional emergency response training for States through which NWPA shipments will pass, and whether Nuclear Waste Fund monies should be utilized for that purpose, are being investigated by DOE in a timely manner pursuant to its responsibilities under the NWPA. Federal legislation is neither necessary nor appropriate at this time to address this situation.

Response to Questions from Senator Adams

Q. On page 13 of your written statement, you discuss the voluntary mutual assistance agreement signed by 54 utilities to assist in nuclear transportation accidents. Just what physical emergency response capability do these utilities have, what is their liability exposure when they do respond, and how do they insure against that liability?

A. Under the auspices of the Institute for Nuclear Power Operations ("INPO"), 54 electric utilites have entered into a voluntary assistance agreement that sets forth the terms and conditions under which one utility - deemed the "Responding Company" - will provide voluntary assistance to another utility - deemed the "Requesting Company" - if an emergency arises during the transportation of nuclear materials shipped by the Requesting Party, and assistance is requested. I should stress in this regard that the agreement does not impose any obligations on any signatories thereto. Rather, in each particular situation where assistance is requested, the decision to respond is voluntary and will be made at that time.

The emergency equipment owned by each utility differs from utility to utility. Each utility, because it owns and operates a nuclear power plant, has personnel that are knowledgeable of the nature of radioactive materials, the hazards posed by such materials, the manner in which they are packaged, and the on-the-scene emergency response actions that should be taken. INPO has prepared and distributed to the signatories a list of emergency manpower and equipment resources. The agreement further provides that INPO, if asked by a Requesting Company, will help to locate sources of emergency manpower and equipment that the Requesting Company may contact for assistance.

The agreement generally provides that the Requesting Company shall indemnify and hold harmless the Responding Company, its officers, directors, and employees, for all liability or loss, damage, cost or expense which any of them may incur by reason of bodily injury or death to any persons or destruction of property which results from the provision of assistance under the agreement. In a situation where assistance is requested, the two companies are free to modify the specific terms of the agreement as they deem appropriate.

Each utility, as a condition of its NRC plant license, has purchased the maximum amount of nuclear liability insurance available in accordance with the Price-Anderson Act, which provides compensation to the general public for personal injury and property damage in the event of a nuclear incident during the transportation of radioactive materials.

Each utility makes its own arrangements for conventional liability insurance for its personnel who might be involved in an accident occurring during the transportation of radioactive materials, much as they would insure against other liabilities. Thus, dependent on the utility, insurance may be arranged through a private insurer, an insurance pool, or through self-insurance, or some combination of those alternatives.

Q. How many years in advance, on the average, does a utility with a nuclear power plant know that it is going to make a spent fuel shipment or series of shipments? Given this long lead-time and the relatively small number of sites, why shouldn't there be comprehensive risk assessments, routing studies, and minimum emergency response capability requirements for each of these routes?

A. In theory, a utility would know several months or even years in advance of the need to make a spent fuel shipment or series of shipments. Unfortunately, however, that often is not the case. Spent fuel shipments in the past have been made for a variety of reasons, including shipping to West Valley, New York in the expectation of reprocessing; to the GE facility in Morris, Illinois for temporary away-from-reactor storage; transshipment between utility plant sites to optimize the use of available spent fuel storage space; and shipments to various research facilities. Planning for many of these shipments began months and even years in advance of the shipments. However, situations have arisen where unexpected shipments have been necessary. For example, as a result of a federal court decision, spent fuel that had been sent to West Valley, New York in the 1970s for reprocessing was ordered to be removed from that facility expeditiously and shipped back to the utilities that had generated the spent fuel. Thus, while there has been a considerable amount of planning time for most spent fuel shipping campaigns, the unexpected has occurred and certainly could occur in the future. I also should note that, to the best of my knowledge, no new major shipping campaigns from commercial reactors are being planned prior to the initiation of shipments under the Nuclear Waste Policy Act ("NWPA").

Whether or not there is a significant amount of lead-time prior to a spent fuel shipment is not determinative of the need for the preparation of comprehensive risk assessments and routing studies, or specialized emergency response training along the transport route prior to each shipment. Both the U.S. Department of Transportation ("DOT") and the U.S. Nuclear Regulatory Commission ("NRC") have evaluated the safety of spent fuel shipments and, based on extensive environmental studies, concluded that the risk associated with any individual shipment of spent nuclear fuel transported in accordance with NRC and DOT regulations is extremely small. See the NRC's Denial of Wisconsin's Petition for Rulemaking, 51 Fed. Reg. 36816, 36818 (1986). Studies also have shown that the potential consequences of an accident serious enough to breach a shipping cask are very low. A study conducted for the NRC by Lawrence Livermore National Laboratory and released just last February concluded that DOT and NRC's previous assessments of the low risk of spent fuel shipments were too high. NUREG/CR-4829, "Shipping Container Response to Severe Highway and Railway Accident Conditions" (February 1987). The new study concluded that the expected radiological consequences from the shipment of 3,000 metric tons of spent fuel per year (which could require approximately 1,000 shipments) -- the amount likely to be transported annually from nuclear power plants across the country to a geological high-level waste repository pursuant to the NWPA - is 1 latent cancer fatality every 7,500 years. The low risk of these shipments is also confirmed by the history of the thousands of spent fuel shipments that have been made to date, both nationally and internationally, without radiological incident. However, it should be noted that in connection with its responsibilities under the NWPA, DOE will be evaluating transportation impacts as it evaluates the proposed sites for a federal disposal facility and a monitored retrievable storage facility, if authorized by Congress.

In short, because spent fuel shipments have been found by the responsible agencies to pose an exceedingly low radiological risk to public health and safety, there is no need to conduct comprehensive risk assessments prior to each shipment. For similar reasons, there is no need for studies to be made of the specific routes that will be used for these shipments. The DOT and NRC presently regulate the choice of both highway and rail routes. DOT has enacted specific highway routing requirements for spent fuel shipments, and rail routes are chosen by the carrier and shipper, consistent with the requirements of the Federal Railroad Administration, in accordance with the principles of the DOT's highway routing rule (e.g., the minimization of time in transit). For safeguards reasons, the NRC specifically evaluates and approves all highway and rail routes used for spent fuel shipments.

As to the need for minimum emergency response capability requirements along each route, I respectfully refer you to my answer to Senator Exon's question where I expressed my firm belief that if State and local emergency response personnel are adequately trained to respond to emergencies occurring during the transport of hazardous materials, then there is little additional training that is necessary to respond to emergencies that might occur during the transport of radioactive materials. Thus, the minimum necessary emergency response capability should be in place at both the State and local level regardless of whether or not spent fuel shipments are expected. State and local personnel will be made aware of the routes to be used for spent fuel shipments because of the NRC's route approval process and its additional requirements that the shipper consult with local law enforcement personnel in choosing the route. Moreover, an individual designated by the Governor of each state will be notified of specific spent fuel shipments through their state in advance of the shipment pursuant to NRC regulations, and may disseminate that knowledge to local officials if the state believes it to be appropriate.

Response to Questions from Senator Danforth

Q. I'm concerned about nuclear shipments traveling by rail through major population centers like St. Louis and Kansas City. Should there be some sort of rail routing guidelines that would discourage the use of such routes where possible?

A. As noted in my prepared testimony, the U.S. Department of Transportation ("DOT") has determined that a routing rule for rail shipments of radioactive materials is neither necessary nor appropriate to enhance public safety. Rail routing decisions are made by the shipper and the carrier taking into account a number of factors including the quality of the track, time in transit, number of interchanges required, and the population density enroute. In light of the extremely low risk to public health and safety posed by radioactive materials shipments, including rail spent fuel shipments that are made in accordance with DOT and U.S. Nuclear Regulatory Commission ("NRC") regulations, there is no technical justification for the principle that avoidance of densely-populated areas should be the major or overriding criterion for the selection of rail routes.

The DOT specifically addressed the question of whether the selection of highway routes for spent fuel shipments should be based on the avoidance of densely populated areas in promulgating its highway routing rule in Docket No. HM-164. In that docket, DOT concluded that spent fuel can be transported over any interstate highway, and most other comparable routes, with an adequate assurance of safety, and that the use of an Interstate circumferential bypass or beltway around a city when available would result in an aggregate benefit. 46 Fed Reg 5298, 5309 (1981). The DOT did not find that avoidance of densely populated areas was necessary or desirable to provide an adequate level of public safety, the criterion established by the HMTA.

The DOT recently confirmed this conclusion in responding to New York City's argument that the lack of an Interstate bypass or beltway around the City, given its high population density, constituted an exceptional circumstance such that the City should be permitted to ban all spent fuel shipments through the City. According to DOT, "the required use of interstate beltways and bypasses was intended to provide a further marginal enhancement to an already safe system of highway routing." 50 Fed. Reg. 37308, 37315. Accordingly, DOT concluded that the lack of an interstate beltway was not *per se* an exceptional circumstance. Similar considerations apply to the rail routing of radioactive materials shipments. Rail routing decisions should continue to be made by the shipper, in consultation with the carriers, on the basis of all the pertinent factors, including population density.

Responses to Questions from Senator Kasten

Q. What specific concerns do you have about current inspection and enforcement levels?

A. One of the nuclear industry's primary concerns with the existing regulatory regime governing radioactive materials shipments is the increasing number of inspections that are being conducted at the State level, and the imposition of transit fees by some States allegedly to recover the cost of these inspections. This problem has been particularly evident with respect to the transportation of spent fuel. In the past few years, largely in response to utility spent fuel shipping campaigns, some states have begun to inspect all shipments of spent fuel through their borders.

The nuclear industry does not object in principle to state inspection programs that are designed to ensure compliance with federal and consistent state regulations governing hazardous materials transportation safety. However, we do not believe that there is any technical justification for state inspection programs focussed specifically and solely on radioactive materials shipments, in contrast to all other hazardous materials shipments.

Moreover, the industry is concerned about the safety impacts of repetitive and redundant enroute inspections. We cannot support the imposition of regulatory requirements absent a demonstrated need, and we are unconvinced that there is a need for repetitive vehicle inspections. If a comprehensive inspection is undertaken at the point of origin, duplicative enroute inspections do not add to safety but rather serve to decrease safety by creating delays and scheduling problems that severly impair the most timely transport of the radioactive material. The DOT's highway routing regulations are based on the goal of reducing miles traveled and time in transit, thereby minimizing radiological exposure and the potential for transit accidents. Rail routes are chosen with a similar goal in mind. By creating delays, multiple enroute inspections conflict with this goal.

Finally, the industry is concerned that the imposition of State transit fees on radioactive materials shipments has the potential to encourage carriers to divert shipments around that jurisdiction, which result is also in opposition to the goals of the HMTA.

In sum, the industry believes that there is little to be gained by repetitive state inspections of radioactive materials shipments, and much to lose in terms of safety, efficiency, and cost. Accordingly, we believe that cooperative federal/state inspection programs must be developed to coordinate state inspection efforts, ensure their uniformity and consistency with federal requirements, and minimize redundancy and a costly duplication of efforts.

With respect to enforcement, we support programs like the DOT's State Hazardous Materials Enforcement Program ("SHMED"), which was designed to provide the states with financial and technical resources to assist them in the enforcement of a nationally uniform system of hazardous materials transportation safety regulation. We also have supported in the past the DOT's budget requests for sufficient funds to ensure the vigorous enforcement of federal regulations.

Q. How quickly are we running out of spent fuel storage capacity at nuclear reactor facilities? How are your member companies preparing for this eventuality? Are you looking at the possibility of using storage containers that would also be used for transportation to temporary or permanent repositories?

A. The availability of spent fuel storage capacity at each reactor differs, so that the need for additional storage capacity prior to the initiation of shipments under the Nuclear Waste Policy Act ("NWPA") in 1998 varies from utility to utility. Many utilities are faced with the possibility of a loss of adequate storage capacity prior to 1998 and are evaluating a variety of means of providing additional storage capacity. Some utilities plan to increase the capacity of their existing spent fuel storage pools through additional reracking of the present storage racks. Transshipment of spent fuel between spent fuel storage pools at other plants is also being examined. Several utilities are engaging in spent fuel rod consolidation projects to increase the capacity of their storage pools. Other utilities are pursuing the use of dry storage techniques in specially-designed and U.S. Nuclear Regulatory Commission ("NRC") licensed storage casks. With respect to the use of dry storage casks, utilities are also evaluating the possibility of utilizing these casks for transportation purposes, which would avoid the need for additional handling of the fuel. However, because the U.S. Department of Energy ("DOE") is still formulating its transportation program and has just started its procurement program to develop transportation casks for use under the NWPA, which includes the development of casks that could be used for both storage and transportation, it is uncertain whether a storage cask can be developed that will be optimally compatible with the DOE's NWPA transportation program.

Q. In your experience, what does it take to build public confidence with regard to the safe shipment of nuclear materials? Would increased public education efforts help?

A. The first step in building public confidence in the safety of radioactive materials shipments, including spent fuel shipments, is education, so that the true nature and risk of these shipments and the need therefor can be understood. As I discussed in my written testimony, the perceived risks of these shipments often bear no relationship to the actual risks. The utilities that have recently completed or are in the process of completing major spent fuel shipping campaigns have engaged in extensive public information programs to ensure that the public is apprised of the nature of the shipments and why they are being undertaken; their relatively low risk to the public; the safeguards utilized by the utility and the carrier; and the route of travel, as well as the considerations that went into the choice of routes. These programs typically include public meetings, the preparation of informational brochures and film presentations, meetings with state and local representatives, and a general responsiveness and willingness to answer questions. The results of these programs were successful in that the shipments usually were conducted with a minimum of public concern and opposition.

Based on this experience, we believe that public information programs at the federal level, as well as at the utility level, are instrumental in building public confidence and ultimately public acceptance. Recognizing this fact, the Nuclear Transportation Group prepared in 1982 a brochure that provides basic information on spent fuel transportation in a question and answer format, a copy of which is enclosed. This brochure has been widely distributed and well-received, and has been utilized effectively in utility public information programs.

Senator Exon. Thank you very much, Mr. Bishop.

Ms. Kassen, we welcome you here. Thanks for coming. Thanks for waiting. We would like to hear your testimony.

Ms. Kassen. I appreciate this opportunity to address the subcommittee.

The regulatory program for ensuring safety of nuclear materials transport is dangerously fragmented. Because the number of shipments of nuclear wastes is about to increase dramatically, the time to correct those current deficiencies is now.

For example, with regard to cask certification, EDF agrees with Senator Adams that allowing DOE to self-certify or DOT to change its rules so that DOE can use TRUPACT, which was not built to meet the NRC standards, is simply unacceptable.

Mr. Chairman, EDF also endorses your earlier proposal. Congress should simply direct one agency both to set safety standards, after public participation and peer review, and also to decide whether or not the casks built meet those standards.

Neither DOT nor NRC have credible inspection or enforcement programs for nuclear materials transport. NRC may never have had an inspector present during the manufacture of a shipping cask. This has led to an unacceptable number of situations where serious manufacturing errors were not discovered for years while a cask was actually in use. One reason is that NRC has the equivalent of only six inspectors assigned to transportation around the country.

The number of DOT inspectors for hazardous materials transportation generally has decreased in the last five years. In 1984, DOE inspected 140 of 7,000 container manufacturers. DOT's highly touted intensive radioactive materials course for emergency responders trained only 120 students between 1980 and 1984.

DOT has established suggested highway routes for nuclear materials transportation, but it is the carriers, without further oversight, who choose the final shipping routes. Corridor states and localities have no real control over the routes. For rail and barge, DOT has not even taken the first step of establishing preferred routes.

The time to act is now. There are 29 corridor states looking at 1200 annual WIPP shipments starting next year. Those truckloads could carry up to 12,000 curies of transuranic waste each.

Similarly, we are looking at 46 states potentially seeing 3,000 metric tons of uranium transported annually to a repository or an MRS starting in the next decade. That is only slightly more than the total amount of spent nuclear fuel shipped in the last 15 years.

The policy which EDF urges Congress to embrace in the face of current regulatory inadequacies is one of enhanced federalism. This approach would allow the Federal agencies to focus on:

Long term planning for the impending massive shipping campaigns, including the development of comprehensive cost and risk assessments and a thorough analysis of least risk alternatives for modes and routes;

Second, ensuring the safe design, manufacture, and ongoing use of containers carrying nuclear materials, including physical testing of as-built casks to destruction. TRUPACT is a rarity. Most of the spent fuel casks on the road today have never been physically tested. They were certified on the basis of computer analyses and other paperwork.

Third, a comprehensive inspection program or carrier terminal and materials waste storage facility is also properly within the Federal responsibility.

At the same time that the Federal agencies are doing these things, enhanced federalism, would leave states, tribal, and local governments with the responsibility and authority to do inspections and enforcement of safety regulations en route and to establish surface routes through their jurisdictions. This authority must carry with it the right to assess the fees necessary to fund these programs, unless Congress establishes a national funding mechanism for nuclear waste shippers that then returns funds to the corridor governments.

Thank you.

[The statement follows:]

STATEMENT OF THE ENVIRONMENTAL DEFENSE FUND

Good afternoon. As the staff attorney for the Rocky Mountain Regional Office of the Environmental Defense Fund, I appreciate this opportunity to address the subcommittee on the issue of nuclear waste transportation.

I want to start by telling you a history. The accident which would have turned this history into a catastrophe did not happen, but unfortunately, the container involved, the amounts of plutonium it carried, the routes which it has traveled and the design miscalculations which were made are all true. The point of this history is that although the people of the United States have been spared the consequences of an accident involving a release of radioactivity, it is not because the government runs a technically unimpeachable program, but rather because, at least so far, we have been lucky.

The LLD-1 is a container weighing less than 150 pounds which is used to transport up to 450 pounds of plutonium by plane and truck. Since 1970, there have been at least 130 truck shipments using the LLD-1, each truck carrying up to 30 containers. In 1975, the Department of Energy (DOE) sought to have the Nuclear Regulatory Commission (NRC) certify the LLD-1 for use by shippers other than DOE, but the NRC responded with questions about the container's structural strength and seal, instead of with approval.[1]

In 1979, due to a finding that the container might leak its powdered plutonium oxide cargo in an accident, DOE limited LLD-1 shipments to solid plutonium, which, although it burns on contact with the air, poses far less of a hazard than the powdered plutonium oxide which may be this lethal substance's most dangerous form. DOE also conducted a new series of drop tests with the LLD-1 during which its support frame collapsed.[2] In response to that information, NRC questioned whether, in an accident involving a crash and fire, enough frames would buckle that nuclear criticality would result.[3] Without responding to NRC's questions about structural strength or possible criticality, DOE terminated further NRC review of the LLD-1 in 1983.[4] Nonetheless, DOE continued to make shipments in the LLD-1 until at least 1984.

Why is this important? The consequences of a serious accident involving a truck loaded with LLD-1's would be enormous. In a 1979 NRC study of worst case scenarios, it found that a credible extreme accident could result in the release of 15% of the contents of one LLD-1, or one kilogram of plutonium. Such an accident, if it occurred in major urban area, would lead to thousands of latent cancer fatalities and billions of dollars of damage from contamination.[5] Yet, because these are DOE shipments, they are in essence unregulated under the Hazardous Materials Transportation Act. The people of New York cannot keep the LLD-1 out of Manhattan.

HOW IS IT THAT UNITED STATES ALLOWS THE USE OF DEFECTIVE PACKAGES FOR THE TRANSPORT OF THE MOST DANGEROUS SUBSTANCE EVEN CREATED?

The regulatory program for ensuring safety of nuclear materials transportation is fragmented among federal agencies, with the result that regulation is inconsistent, *e.g.*, between modes of transport or based on who is shipping, and there are serious regulatory gaps.

For example, NRC has the responsibility of ensuring the safety of shipping container, or cask, designs used by commercial shippers of high level nuclear waste, or other large quantities of nuclear materials. However, DOE, the nation's largest shipper, is not subject to NRC certification. Pursuant to regulations adopted by the Department of Transportation (DOT) under the Hazardous Materials Transportation Act, all DOE needs to do is certify that its casks meet standards equivalent to the NRC's, and it can ship.[5] This sounds fine until one learns that on at least 10 separate occasions after DOE has self-certified a spent fuel cask, NRC has subsequently asked so many questions about that cask's design that DOE has been unable to obtain from NRC certifcation for the cask's use by commercial shippers.[6] In other words, DOE's concept of what meets NRC standards appears at odds with NRC's analyses.

Next to the LLD-1 described above, the most distressing example of this disparity in assessment involves the MH-1A, a spent fuel cask, two of which were originally manufactured in 1971 and used by the Army for 23 shipments between 1974 and 1977. DOE then assumed ownership of the casks and granted them licenses in 1980, based on an upgraded DOE safety analysis.[7] In addition, DOE requested certification from the NRC so that NRC licensees could also use the casks. NRC asked for more information because of structural questions related to the casks' ability to survive the drop test and because of questions involving a potential loss of shielding in the event of a fire.[8] DOE completed some cask redesign including adding a fire shield, and began shipments from Brookhaven National Laboratory through New York City in 1985. DOE made a total of 13 shipments despite the fact that NRC continued to question the safety of the casks' design. When DOE still could not satisfactorily answer all of NRC's concerns, DOT ordered that the cask be suspended from use.[9]

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[1] Audin, Lindsay, *A Review of the Effects of Human Error on the Risks Involved in Spent Fuel Transportation*, prepared for the Nebraska Energy Office, 1986, rev. 1987 (*Audin*), p. 34.

[2] DOE, "Re-Evaluation of LLD-1 Package" DPST-79-217, 1979.

[3] MacDopnald, Charles (Chief, Transportation Certification Branch, Nuclear Regulatory Commission), Letter to DOE, Attn: Donald Ross with enclosure, May 13, 1980.

[4] *Audin, supra*, p. 35.

[5] Finley, et al., *Transportation of Radionuclides in Urban Environs: Draft Environmental Assessment*, NUREG/CR-0743, prepared for NRC, 1979, p. 120.

[6] *Audin, supra*, p. 33. [This table is attached hereto as Appendix B.]

[7] *Id.*, p. 31.

[8] MacDonald, Charles, Letter to DOE, Attn: Reuben Prichard with enclosure, February 24, 1983.

NRC has inspected few if any casks during production. The agency has thus based certification on the paper trail of fabrication. This record is consistent with the number of manufacturer inspections for hazardous materials shipping containers generally, where in 1984, DOT inspected only 144 out of 7000 container manufacturers.[10] This situation neither fosters the most careful manufacturing protocol nor public confidence. Of course no outside entity inspects DOE's cask manufacturers.

A major part of the NRC certification design criteria is a demonstration that a cask could withstand a series of four severe accidents.[11] Unfortunately, a container may be certified as meeting the design criteria on the basis of computer simulated accidents, rather than on the basis of actual full-scale testing with prototype casks. The rationale for this use of the computer as a replacement for physical testing would appear to be based on cost computer runs are cheaper than actual tests with real casks that are each expensive to construct. Safety has simply not been the priority consideration.

The consequence of allowing certfication on the basis of computer simulated responses to accident stresses, or even on the basis of small model, *i.e.*, quarter size, tests is an incorrect prediction. That is a lesson which this country should only need to learn once, and the occasion has already passed. TRUPACT, the container which DOE designed and built to carry transuranic waste to the Waste Isolation Pilot Plant in New Mexico, was designed to withstand the NRC hypothetical accident conditions and further tested by subjecting quarter-scale models to repeated proof tests, or field verifications. However, when DOE tested a full-scale TRUPACT in 1985, the cask failed after 35 minutes of fire.[12] (The NRC certification standards require only that one demonstrate that the cask withstand a 30 minute all-engulfing fire, but the DOE engineers, to their credit, accepted the TRUPACT's failure at 35 minutes as an indication that redesign was necessary.)

EDF would also point out here that with regard to the TRUPACT, DOT is being put in an awkward situation which highlights the messy results of having three agencies involved in nuclear waste transportation regulation. The NRC is generally considered to be the agency with the expertise for judging the safety of things nuclear. But, Congress expressly barred NRC from playing a role in the WIPP program.[13] Thus, the shipping containers to be used in transporting transuranic waste to the WIPP will be certified by DOT according to their requirement that all containers be certified as meeting standards equivalent to those of the NRC.[14]

DOE has requested that DOT change this requirement to allow DOE to use TRUPACT, a container which everyone concedes does not meet the NRC standards. Thus, DOT is faced with making a determination of the safety of a container for the shipment of plutonium-contaminated waste when DOT was not itself responsible for adopting the underlying safety criteria. DOT simply does not have the personnel or expertise to make this decision, but because NRC is barred from the process, DOT will in effect be asked to change the NRC standards for what is a necessary safety design criteria.

Neither DOT nor NRC have credible inspection and enforcement programs. With regard to the situation at DOT, the total number of inspectors responsible for hazardous materials transport has decreased over the last decade such that in 1985, there were the equivalent of 110.5 inspectors for *all* hazardous materials, including nuclear waste, traveling by all modes.[15] Not to be outdone in minimalism, NRC has a grand total of 6 inspectors out of a total of 80, who devote their time to the inspection of nuclear waste shipments.[16] Even though there have not been that many shipments, these inspectors have been unable to find the problems that have occurred in a timely manner.

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[9] Santman, L.D. (Direct Materials Transportation Bureau, Department of Transportation), Letter to Ronald Cochran, DOE, May 23, 1985.

[10] Office of Technology Assessment, *Transportation of Hazardous Materials*, U.S. Government Printing Office, Washington, D.C., 1986 (*OTA*), p. 206.

[11] 10 C.F.R. Part 71.

[12] DOE, *TRUPACT: Transuranic Package Transporter* [a flyer], Albuquerque, N.M., 1985.

[13] Pub. Law 94-164, the authorizing legislation for the WIPP.

[14] 49 C.F.R. Part 173(d).

[15] *OTA, supra*, p. 209

[16] *Id.*, p. 211; and *Audin, supra*, p. 52.

Look, for example, at the history of the NAC-1. Seven of these casks were made in 1974. In a two-week period during June 1977, between three casks then in service that had been used in approximately 150 shipments, inspectors discovered 5 open vent valves and one open drain valve. One NRC inspector decided that these valve failures resulted from normal truck vibrations occurring during transport where the valves had not been adequately tightened originally, possibly as a result of incorrect installation instructions.[17] Although these casks had been in use for several years, none had ever discovered this problem before, one reason may be because inspection regulations did not require an inspection of the valves at the end of a shipment, just prior to shipment.[18]

At the time of their fabrication, NAC-1's lead shielding was poured in a molten state into the space between two concentric shells and then left to cool. Because the shielding in one of the casks was thinner than desired in places, the manufacturer welded copper plates to the outside of that cask, an authorized response which went unnoticed for 84 shipments until 1979 when a purchaser of the cask discovered the plates.[19] The presence of copper next to the steel shell of the cask can lead to a lowered melting temperature where the two metals are in contact. A loss of lead shielding would allow lethal doses of radiation to escape through the walls of a cask, even absent a breach of the cask's outer integrity.[20]

This same cask, along with a second NAC-1, was also found to have its inner cask cavity shell bowed out of shape in 1979. After the casks' purchaser notified NRC of the casks' condition, NRC allowed an additional four shipments of spent fuel before suspending the casks from use. Neither cask had been in a recorded accident; thus, the bowing was a result of normal use that had occurred at some time during the five years that the casks were on the road.[21] This bowing could have led to buckling of the inner cavity in an accident that might then have damaged the fuel rods or forced the pressure relief valves open.[22]

The 67 Ton Rail Cask, built in 1962, was used in the Sandia National Laboratory fire test in 1978. It was designed to withstand a 60 minute fire (as opposed to the 30 minute fire currently required). After 100 minutes, observers saw a white cloud rise from the cask, so they turned the fire off. When the cask cooled enough to examine it, the inspection disclosed that the outer shell cracked allowing lead shieding to vaportize, that no holes had been drilled in the inner cavity to allow the melted lead to expand in violation of the cask design, and the cask had been completed using improper welds involving incorrect materials and excessive welding tempreature. A loss of lead shielding would lead to the release of more radiation through the walls of the cask, thereby increasing the dosage of people outside even without a release of radioactive material. None of these defects was observed during the cask's 16 year life.[23]

With regard to the routing of nuclear materials shipments, DOT has established suggested highway routes, but it is carriers, without any oversight, who choose the final route for a shipment.[24] Rail transport, which DOE expects to be the primary future mode for spent fuel shipments, is under even less control. DOT has not even taken the first steps of establishing preferred routes or minimum operator training requirements. Similarly, DOT has no rules relating to the transportation of nuclear materials by barge.

Although EDF does not have information on the expected number of shipments of plutonium over the next several decades, as everyone in this room undoubtedly knows, the number of shipments of nuclear waste is about to take a quantum leap.

If DOE remains on its current schedule, the WIPP in southeast New Mexico will open next year and begin receiving, on the average, 1200 truckloads of transuranic waste each year. Most of these waste shipments will originate in Idaho, Washington or Colorado; however there will be 29 WIPP shipment corridor states. If allowed to use TRUPACT, despite that container's clear noncompliance with NRC safety design criteria, DOE has established an upper limit of 12,000 curies of radioactivity per truckload.[25]

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[17] Head, J.T., Letter to Director of Nuclear Materials Safety, NRC with enclosures, July 12, 1977; and Burstein, Sol, Letter to Director of Nuclear Materials Safety, July 21, 1977.

[18] *Audin, supra*, p. 42.

[19] Rollins, Jack, Letter to C.E. MacDonald (NRC), April 12, 1979; and NRC's Inspection Report No. 9990331/79/01.

[20] *Audin, supra*, pp. 43–44.

[21] *Id.*, p. 44.

[22] *Ibid.*

[23] *Id.*, pp. 38–39.

[24] 49 C.F.R. Parts 173 and 177 ("HM-164").

If Congress authorizes DOE to build a Monitored Retrievable Storage facility (MRS) for the temporary storage and possible consolidation of spent fuel bound for the permanent repository, ultilities will ship between 2500 to 3000 metric tons of uranium to that facility during full-scale operations. MRS shipments could begin as early as 1998 under the schedule which DOE recently proposed to Congress.[26]

If and when DOE opens the first repository, it will also accept 3000 metric tons of spent fuel on the average each year.[27] By contrast, there has been only slightly more than that much spent nuclear fule shipped in total over the last 15 years.[28] Depending on where this repository is ultimately located, as many as 46 states will be corridors for spent fuel or high level defense waste shipments.[29] The curie content of a shipment of spent fuel, assuming one metric ton of uranium per shipment, no rod consolidation and fuel 10 years out of the reactor, is approximately 700,000 curies.[30] (A more through discussion of the radioactivity of spent fuel is appended to this testimony.) Using current containers, that means 6800 truck shipments per year or 860 train shipments. DOE estimates that a new generation of casks will be built by the time the repository opens which will cut these numbers approximately by half.

WHAT CAN CONGRESS DO NOT TO ENSURE THE FUTURE SAFE TRANSPORT OF NUCLEAR MATERIALS?

EDF believes that the time has arrived for Congress to take another look at how the transportation of nuclear materials is regulated. The concept which we urge Congress to embrace is one of *enhanced federalism*. Enhanced federalism would allow the federal agencies to focus their resources on:

Long term planning for the massive shipping campaigns which are just around the corner. This should include a directive from Congress to DOT to develop thorough, all encompassing cost and risk assessments for the spent fuel and transuranic waste shipping campaigns, as well as a comprehensive analysis of least-risk alternatives for modes and routes for nuclear materials transportation. It is imperative that this effort assure full disclosure of methodologies, peer review and public participation. We would point out that DOT has never even done a comprehensive environmental analysis nor a risk assessment of its current highway routing rules as they apply to nuclear materials transportation.

Ensuring the safe design, manufacture and ongoing use of containers carrying nuclear materials, including physical testing of as-built casks to destruction and the presence of inspectors during cask manufacture;

A comprehensive inspection program of carrier terminal and materials/waste storage facilities, which could be accomplished in part simply by transferring the Bureau of Motor Carriers and the Materials Safety Branch to the National Highway Traffic Safety Administration. This reconstituted federal entity could then focus on inspection of carrier terminals and materials/waste sources to ensure safe loading of the materials, as well as on compliance with the industry-wide maintenance and safety standards mentioned below; and

The creation of a comprehensive regulation for carriers that encompasses such diverse matters as minimum standards for operator training, mode and industry specific maintenance protocols and standards, and a national registration system.

At the same time that the federal agencies concentrate their resources on these four facets of transport regulation, all of which EDF believes can best be addressed at the national level, states, tribal and local governments would be left with the responsibility and authority both:

to do inspections and enforce safety regulations in transit, including the authority to regulate stop-times, rest locations, speeds and escorts so as to minimize radiological and other risks, and to establish all surface routes through their jurisdictions.

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[25] Channel, James, et al., *Adequacy of TRUPACT-1 Design for Transporting Contact-Handled Transuranic Wastes to WIPP*, EEG-33, State of New Mexico, Santa Fe, N.M., 1986, p.v.

[26] DOE, *Monitored Retrievable Storage Submission to Congress*, vol. I, DOE/RW-0035/1-REV 1, Washington, D.C., 1987, p. 20.

[27] DOE, *Environmental Assessment*, vol. 2, DOE/RW-0069 to 0073, Washington, D.C., 1986, p. A-31.

[28] *OTA, supra*, p. 91 [EDF data manipulation].

[29] Western Interstate Energy Board, *Spent Nuclear Fuel and High-Level Radioactive Waste Transportation* [DRAFT], Denver, Co, p. 37-53.

[30] Lipschutz, Ronnie Radioactive Waste: Politics, Technology and Risk, Union of Concerned Scientists, Ballinger Publishing Co., Cambridge, MA, 1980, p. 43.

This authority would carry with it the right to assess fees as necessary to fund these programs, unless Congress establishes a national funding mechanism for nuclear waste shippers that was structured to allocate funds to corridor governments. At a minimum, Congress should increase funding to the states through mechanisms such as the Motor Carrier Safety Assistance program, administered by the Bureau of Motor Carrier Safety. In addition, Congress should encourage multi-state agreements to provide inspection and enforcement while avoiding duplication and undue interference with commerce. One excellent example of such an arrangement is the Commercial Vehicle Safety Alliance, of which 26 states and 2 Canadian provinces are members.[31]

As it stands now, the states are in an untenable position with regard to the regulation of nuclear waste shipments for several reasons. First, the current program for determining whether a state's regulations which attempt to provide for the health and safety of it citizens is not working. After 16 rejections, DOT finally ruled for the first time last year that a comprehensive program enacted by the state of Illinois was acceptable and consistent with Hazardous Materials Transportation Act and its pendant regulations.[32] Despite Illinois' victory, however, DOE has appealed the ruling and refuses to pay the shipping fee, one of the foundations of an effective Illinois program. Because DOE is the biggest shipper of high level nuclear waste in the country, the fact that DOE is not paying its fair share significantly hampers the Illinois inspection and escort system.

A second indication of the inadequacy of the current state of affairs is the status of emergency response training. As the Office of Technology Assessment reported last year, "[f]ederal grant programs have not provided any direct support for local inspection and enforcement activities."[33] Moreover, of the highly-touted intensive radioactive materials course which DOT offers to local emergency responders, trained a grand total of 120 students between 1980 and 1984.[34] Because it remains uncertain whether states can collect fees from shippers to pay for inspection or emergency response training, local governments must resort to general revenue sources if they want to train their personnel.

Shippers will undoubtedly maintain that there is no need for more state inspection or enforcement activities because the federal government adequately covers the field. They will point to their transport record proudly citing the absence of accidents with spent fuel shipments that have resulted in the release of radioactivity. However, as can be seen from the facts recited above, this unblemished record is not as a result of error-free construction or maintenance of nuclear waste shipping containers, nor of adequate oversight. As I said before, it is more a child of luck.

In a system of enhanced federalism, there will also be areas where the federal agencies and the states and tribes need to cooperate more directly. Thus, DOT (in cooperation with the NRC) should be directed to develop true worst-case radioactive release scenarios for accidents and sabotage of spent nuclear fuel and high-level waste shipments, which local governments could then use as a basis for developing detailed analyses of their needed emergency response capabilities and identifying where those capabilities are currently lacking.

In sum, EDF believes that there are many opportunities to better the existing law and regulations which govern the transport of nuclear materials. Given the probability of greatly increased numbers of shipments in the future, the time for Congress to act to correct these deficiencies is now. I thank you for listening and would be happy to answer any questions you might have.

APPENDIX A.—A NOTE ON THE RADIOACTIVITY OF SPENT FUEL

Spent nuclear fuel and high level nuclear waste, which is produced from the reprocessing of spent fuel and from certain defense related processes, (hereinafter referred to as "HLW" or "waste") are unfortunate by-products of our ability to use nuclear power. Since the beginning of the nuclear age, industry, the government and other interested parties have grappled with the question of how to dispose of HLW or at least how to isolate such waste from the public and the environment. One can only begin to understand the level of concern surrounding the debate over nuclear waste if one appreciates its highly toxic nature.

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[31] *OTA, supra*, p. 214.

[32] 51 Fed. Reg. 20926 (June 9, 1986); DOT, IR-17.

[33] *OTA, supra*, p. 213.

[34] *OTA, supra*, p. 209.

Radioactivity results from the decay of unstable atoms of material; an unstable atom ejects particles with either mass or energy or both, thus creating radioactivity. Unstable atoms continue to emit particles until they have decayed into a stable, nonradioactive form. For most products of nuclear fission, the atoms undergo multiple transformation, from one unstable form to another before they reach a stable state; this process is called the decay chain. Some isotopes of the decay chain are termed the "daughter products" of the original radionuclide.

Radioactivity is measured in several different ways depending on the relationship which one wants to represent. One basic unit or radioactivity is a curie (for Madame Maria Curie) which is equivalent to the radioactive emissions, or decay rate, of one gram of pure radium. Another way to discuss a substance' radioactivity is by estimating the hazard to living tissue posed by exposure to that substance. One unit used to measure radioactive exposure, or dosage, is the 'rem' which represents the radioactive dose that a person receives when exposed to certain radioactive substances.

Yet another way to compare the hazards posed from different radionuclides is by looking at their half-lives, where a half-life measures the length of time that a particular nuclide remains radioactive. At the end of its half life, radioactive matter emits one half as much radioactivity as it did to start because of the decay which has occurred. Although many nuclides in the spent fuel inventory have half-lives less than one day, at least 58 have much longer radioactive lives and several have half-lives of millions of years. Lipschutz, Ronnie, *Radioactive Waste: Politics, Technology and Risk,* Union of Concerned Scientists, Ballinger Publishing Co., Cambridge, MA, 1980, ("*Lipschutz*"), pp. 178–179.

When one metric ton of spent fuel emerges form the core of a light water nuclear power reactor (the most common type of commercial reactor in the United States), it contains up to 221 megacuries of radioactivity, where one megacurie equals one million curies. Office of Technology Assessment, *Managing the Nation's Commercial High Level Radioactive Waste,* U.S. Government Printing Office, Washingtion, D.C., 1985, ("*OTA*") p. 25; citing Croff, A.G. and C.W. Alexander, *Decay Characteristics of Once Through LWR and LMFBR Spent Fuels, High Level Wastes and Fuel-Assembly Structural Material Waste.* ORNL/TM-7431, Oak Ridge National Laboratory, Oak Ridge, TN, 1980. After the spent fuel has been out of the reactor for 150 days, because of the decay which occurs, a metric ton contains "only" 4.6 megacuries of activity. *Lipschutz,* p. 43. After 10 years, the radioactivity of one metric ton of spent fuel has dropped to less than 0.7 megacuries and after 10,000 years scientists estimate that the total radioactivity would be 470 curies. *Ibid.*

Radiation, or radioactive emissions present a hazard to living organisms because the particles emitted can penetrate tissue thereby causing damage, from either mutation or death of the tissue cells. Exposure to high levels of radioactivity can lead to death. And, how a person is exposed to radioactive emissions is critical; external exposure to certain types of radiation results in a significantly less severe hazard than inhalation of the same type of radioactive particle. For example, the *external* radiation dose from exposure to Cesium-137, a common product of nuclear fission, is almost four times that of the whole body dose for *ingestion* of the same amount of Cesium-137, whereas for Plutonium-239 which is also produced from the fission reaction, the dosage from ingestion is 2526 times the dosage for external exposure to the same quantity. *Lipschutz,* p. 26.

The reason that these two elements pose such different hazards is that they emit different *types* of radioactive particles. These types of radiation are most frequently identified by the type of particle or energy emitted. The most common types of radiation are alpha, beta and gamma, where alpha particle emissions are identical to the nucleus of a helium atom, beta particle emissions are each composed of a single electron, which is a negatively charged atomic components, and gamma rays are electromagnetic ionizing radiation. Different types of radioactive are dangerous in varying degrees and emissions from different radionuclides tend to effect disparate human organs. In addition, even radionuclides emitting the same type of particle each give off different *quantities* of particles at different rates.

One reason that the rem is such a useful unit of measurement is that it computes the hazard of radionuclide so that one can compare the effect of dosages from one type of radionuclide with another. For example, when contrasting the effects of inhaling one one-millionth of a curie (one microcurie) of Plutonium-239 with inhaling the same amount of Cesium-137, the dose resulting from the plutonium is 110 rems whereas the does resulting from the cesium is only 0.032 rems. On the other hand, external exposure to one curie of radioactive Cesium-137 spread over one square meter of ground for one day would lead to a dose of 137 rems of activity whereas the dosage from external exposure to the same amount of Plutonium 239 would be dramatically less: 0.38 rems. *Lipschutz,* p. 26.

The major reason for this discrepancy is that plutonium is an alpha emitter while cesium emits beta and gamma rays. Alpha particles do not travel through human tissue; in fact, they can be stopped by a piece of paper. However, if inhaled or ingested such that they become lodged in tissue, alpha particles pose a high risk of tissue cell mutation. By contrast, beta and gamma radiation are powerful in their ability to move through tissue; thus, they need significant shielding, although they do not pose a great danger if inhaled or ingested. *Lipschutz,* pp. 184–185. In one metric tone of spent nuclear fuel, at the time it is taken from a reactor's core, there are 208,000 curies of Cesium-137 and 323 curies of Plutonium-239. The half life of the Cesium-137 is 30 years; Plutonium-239's half life is 24,400 years. *Ibid.* Plutonium-239 and Cesius-137 are but two of the hundreds of different isotopes which comprise the radioactive inventory of spent fuel. *Id.*, p. 177.

Although scientists have a fairly high confidence level when speaking about the effects of high radiation dosages, data is much more scarce and the consequent confidence level in predicting the effects of low level radiation dosages is relatively low. Thus, exposure to 1000 rems in a single, "acute" incident will invariably result in death, and a single, whole-body exposure to 400 rems will cause death in fifty percent of the organisms exposed. Doses of radiation between 100 and 400 rems lead to radiation sickness and in some instances to cancer, although the exact doses necessary to generate future cancers are unknown. The symptoms of radiation sickness run a gamut, from the comparatively minor—nausea, vomiting, headaches, dizziness and malaise—to the more severe, including loss of antibody production with its consequent susceptibility to infection. Long term, chronic exposure to low level doses of radiation can lead to other hazards, *e.g.*, latent cancers or genetic defects. *Lipschutz,* p. 15; *OTA*, p. 23.

By contrast, the precise effects from doses less than 100 rems is unclear. Studies show that the average American is exposed through background radiation and incidental human-made radiation (like x-rays) to approximately 160 millirems (thousandths of a rem) annually. Recently, EPA estimated that this background level of radiation is responsible for approximately 6000 cancers annually. 50 Fed. Reg. 38082 (Sept. 19, 1985). Based on the assumption that no level of exposure is without risk, both the Nuclear Regulatory Commission and the Department of Labor have set limits on the exposure level for workers in nuclear facilities of 1 rem whole body dose per calendar quarter. 10 C.F.R. Part 20.101 and 41 C.F.R. Part 50–204.21. EPA has set a maximum dose for worker exposure from a single incident release at 25 millirem. 40 C.F.R. Part 190.10(a).

If DOE were to use shipping containers with a payload equal to that of those now on the road, one could expect as many as 6800 truck shipments or 860 train shipments as a yearly average during the period when the first repository is accepting HLW. Western Interstate Energy Board, "White Paper on High Level Nuclear Waste Transportation," 1985, pp. 38–53, incorporating maps and data from Oak Ridge National Laboratories. However, DOE anticipates "only" 70,000 total truck, or 9800 total train shipments over the 26 year life of the repository, because a new generation of shipping containers will be available with a much-enlarged payload capacity. DOE, *Environmental Assessment,* DOE/RW-0069 to 0073, Washington, D.C., 1986, (*EA*) Transportation Appendix, p. A–11.

Using the new generation of shipping casks, a truck would carry two spent fuel assemblies from a Pressurized Water Reactor, each containing approximately 0.46 metric tons of uranium. Under Lipschutz' assumption about curie content of spent fuel and assuming that the fuel has been out of the reactor core for 10 years, the radioactivity of a truck shipment would approach 0.7 megacuries. *Lipschutz,* p. 43. Rail cars, which will carry seven times the number of spent fuel assemblies that trucks hold, *EA,* Transportation Appendix, p. A–11, would average a curie content of 4.7 megacuries under the same assumptions. Although DOE consistently predict lesser curie contents for spent fuel radioactivity, see footnote 2 hereinabove, even the number their contractors use, 1.3 megacuries for a rail car loaded with 12 assemblies, is frighteningly large. Wilmot, et al., "A Preliminary Analysis of the Cost and Risk of Transporting Nuclear Waste to Potential Candidate Commercial Repository Sites," Sandia National Laboratories, SAND83–0867, Albuquerque, NM, 1983, pp. 33–34.

The risks associated with the transportation of spent nuclear fuel, or any type of radioactive material, are logically related to the number of miles traveled, among other factors, such as a route's population density or the hazards of a route's terrain. Even DOE conceeds that the farther a shipment travels, the greater the costs and risks because, *inter alia,* the more likely an accident (whether it results in a radiologic release or not) and the more people who may be exposed along the route to the radioactivity effects of just normal transport. *EA*, p. 7-95.

[The following information was subsequently received for the record:]

ANSWERS TO SUBCOMMITTEE MEMBERS' QUESTIONS
FOR THE ENVIRONMENTAL DEFENSE FUND

Melinda Kassen, Staff Attorney
Rocky Mountain Regional Office

June 19, 1987

Questions from Senator Exon

1. Assuming that there is a need to move radioactive materials from one point to another, what suggestions might you have so that the cost of this would not be prohibitive?

EDF's position is based on the maxim that an ounce of prevention is worth a pound of cure. The costs of cleaning up a release of radioactivity from a severe transportation accident, estimated at as much as two billion dollars a decade ago, overwhelm the costs of preventative action. Thus, EDF advocates sound cask testing coupled with a comprehensive inspection and maintenance program. Carriers would travel only those routes and use only those modalities that a comprehensive cost and risk assessment had shown to be the safest alternatives overall.

EDF advocates full-scale cask testing, although expensive, because it is the best way to ensure safe design and construction. Moreover, in the future, there will be larger fleets of shipping casks for spent nuclear fuel, high level defense waste and transuranic waste. Assuming that these fleets will be composed of only a few different designs, the cost of destructive testing will be spread over a large number of individual casks. Thus, the expense on a per cask basis should not be excessive.

Manufacturers and carriers should pay the costs of federal inspections and infrastructure improvements and maintenance through a fee system, either tied to a licensing program or through a Nuclear Waste Fund contribution, and should provide their own fleet maintenance, consistent with federal requirements. Again, to the extent that these expenses are high, one must remember that nuclear waste cask manufacturers and carriers need not purchase insurance to cover their transportation-related activities, unlike those of other hazardous materials shippers, because they are covered under Price-Anderson. The costs of buying an adequate federal safety program pale in comparison to the price of insuring safe nuclear waste transport.

At the local level, EDF advocates that Congress allow states to establish fees to cover their costs of providing emergency response training, escort services, and other programs which are necessary to ensure safe transport through their jurisdictions.

There is no question that all of these expenses add up; however, those who benefit from nuclear power must pay its costs, including the price of disposal of nuclear wastes from reactors. The price tag on waste disposal from defense programs falls under the rubric of national security and thus will be paid by all taxpayers. If Congress determines that the costs of nuclear waste disposal, including the costs of safe transport, are prohibitive, then this country must reassess its continued reliance on nuclear power for civilian use and/or on a nuclear defense system.

2. In terms of long term planning, what factors should DOT consider in a comprehensive environmental analysis or risk assessment of routing rules as they apply to nuclear materials transportation?

DOT should compare, for each mode or modal mix and for each potential route,

- Driver or operator experience and minimum training requirements;

- infrastructure quality, including the amount of maintenance necessary to keep the route in an acceptable level of repair;

- access to the route in the event emergency response becomes necessary;

- time for emergency response and availability of trained emergency responders along each segment of the route;

- population density along the route;

- accident rates for the size and/or class of transport vehicle [1] for each segment of the route (i.e., DOE's use of average truck accident statistics is misleading because the accident rate for large trucks exceeds that for smaller or for average sized trucks);

- effect on the accident rates of a higher density of vehicles carrying nuclear waste along each segment of the route;

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[1] "Vehicle" means truck, train or barge, as used herein.

- likelihood of accidents due to human manufacturing or maintenance errors in the production of casks or shipping containers, if possible as a function of the size and quality of federal and state inspection programs;

- effect of actual weather patterns on the accident rates and estimated delays en route;

- true worst-case scenario accident costs and risks;

- places and lengths of routine stops on each route segment;

- total estimated time en route;

- switching frequency along rail routes;

- intermodal switching (*e.g.*, from barge to train or from train to truck);

- the effects of using dedicated as opposed to unrestricted trains;

- speed limits;

- time of day restrictions around metropolitan areas;

- the use of overweight vehicles;

- the effect of the schedule at the terminal facility (*i.e.*, what will happen on a given route if the terminal facility is behind its schedule for receiving and unloading deliveries thus forcing vehicles en route to take unscheduled stops);

- the probability of human error causing delays, incorrect route choices or accidents; and

- the presence of health care facilities en route for accident victims.

Question from Senator Danforth

3. I'm concerned about nuclear shipments traveling by rail through major population centers like St. Louis and Kansas City. Shouth there be some sort of rail routing guidelines that would discourage the use of such routes where possible?

EDF has always argued that the only sensible way to choose the modal mix and routes for a nuclear waste shipping campaign are after the completion of a comprehensive assessment of costs and risks. The guidelines necessary for completing such an assessment would include, as a minimum, those items listed in response to Question 2, above. If after conducting such an assessment, and subjecting it to public comment and technical peer review, DOT and DOE demonstrated that the safest overall route traveled through major population centers, one must either accept those results, choose to make no shipments at all or determine not to make further shipments unless adn until there is a safer technology available. However, without a comprehensive cost and risk assessment, there is no way of knowing whether the agencies have in fact chosen the safest route.

Questions from Senator Kasten

4. What specific concerns do you have about current inspection and enforcement levels?

As demonstrated by the evidence presented in the OTA report and in the report from the Nebraska Energy Office on nuclear materials transport, both of which are cited in EDF's written testimony, even with today's small number of nuclear waste shipments, there are not enough inspectors to catch major manufacturing defects and there are not enough courses to teach emergency response to those who would be expected to perform in the event of an accident. If the appropriate federal agencies cannot maintain quality assurance at the present level, EDF anticipates severe problems with inspection programs in the future.

Unless NRC moves from a shipping container certification program that certifies on the basis of a paper inspection of cask manufacture to one which puts live inspectors in the factory to watch manufacture, the agency cannot ensure that the casks will be properly constructed. Until NRC or DOT inspect casks both on departure and on arrival, they will continue to miss cask defects such as vents which open in transit and which could allow a radioactive release that would otherwise not occur in the event of an accident. Until there is real enforcement of the placarding, paperwork and substantive safety standards, including those relevant to driver experience and training requirements, the industry will not take its responsibility to comply with such standards seriously and citizens will continue to be subjected to unnecessary incidents involving hazardous materials shipments such as the torpedo spill at the interchange of Interstates 25 and 70 just north of Denver. Not only was that driver off her predetermined route, but she was a virtual novice at her job.

5. Sometimes it seems that opponents of nuclear power generation use transportation issues to fuel public fears. The fact is that radioactive wastes already exist and must be stored at safe facilities, some of which are miles away from the waste

source. Radioactive materials necessary for medical purposes and research must be moved through highly populated city centers. What do you suggest we do to separate the discussions in order to deal with the very real concerns of safe and responsible transportation?

EDF has not taken a position opposing nuclear power generation. To the extent that this organization has ever advanced arguments which could be construed as opposition to nuclear power generation, they have been either safety based or market place arguments, based on the industry's economic lack of competitiveness despite the high degree of subsidy which it receives from the government. To advocate safe design and implementation of all aspects of the nuclear fuel cycle is in no way akin to opposing the industry; rather, such a position is consistent with EDF's goals of working for a safe environment protected for the use and enjoyment of present and future generations.

EDF agrees that the country must build sufficient safe facilities to dispose of all types of existing nuclear waste. But, because such facilities do not now exist and because we do not favor spending money on unnecessary temporary storage facilities, our first answer to the problem of nuclear waste transport is to hold such waste, particularly spent fuel, on site, in dry cask storage, until such time as permanent safe disposal facilities exist. Especially given that there have been unnecessary nuclear waste shipping campaigns such as occurred in Wisconsin, EDF would advocate no transportation until the permanent disposal sites are open.

This question appears to assume that safe facilities for the temporary or permanent disposal of nuclear wastes will be built far from the sources of the waste. EDF disagrees. In fact, one of the goals of the Nuclear Waste Policy Act is to minimize the distance which nuclear waste will be transported. Although nuclear wastes already exist which must be shipped to a permanent disposal facility at some point in the future, EDF advocates not only that shipping be delayed, as explained above, but also that shipping be minimized as much as possible by choosing the safest possible sites as close to the major sources of nuclear waste as practical.

EDF supports the separation of issues which arise in the context of the various types of nuclear wastes which this question appears to imply. EDF's testimony at the hearing was directed to the problems associated with the transport of high level nuclear wastes, both defense wastes and spent fuel, and to transuranic wastes; because these types of wastes can only be shipped in Type B containers, EDF advocates that the same safety precautions apply to each. Low level nuclear waste such as is used for medical and research purposes is shipped in Type A containers; clearly a whole different set of requirements applies and an entire different complex of risk and cost factors is at issue.

EDF strongly supports the need to set aside the purely emotional discussions of nuclear materials transport from the necessary policy discussions in which Congress must engage if this country is to get its nuclear waste disposal program back on track. The bills which have been introduced to date (including the bill introduced by Senators Proxmire and Hecht along with at least six cosponsors on June 19, 1987), considered together, form an appropriate vehicle in which to consider the very real and compelling issues which Congress must resolve for there to be safe transport of nuclear wastes in the future. A comprehensive assessment of the costs, risks and impacts of transporting high level nuclear and transuranic waste from their sources of production to their final disposal sites should be undertaken before massive shipping campaigns begin. If these factors were realistically quantified, the federal government might rethink the necessity of siting permanent disposal facilities as far as possible from the major sources of waste production, the need to build temporary storage facilities at all, or the pursuit of policies which require large scale interstate shipments of nuclear wastes sooner than is absolutely necessary.

EDF believes that the best way to respond to emotional "not through my backyard" arguments is to have the answers ready when a route is announced. If the federal agencies can back up their decisions regarding transportation modes and routes with hard data, tested assumptions and comprehensive comparative analyses that have undergone public scrutiny and peer review, opponents will not be able to make convincing contrary arguments. Congress should direct the federal agencies to do this work expeditiously so that all interested parties can resolve the current controversies on a rational, scientific basis before the massive campaigns begin.

6. In your experience, what does it take to build public confidence with regard to the safe shipment of nuclear materials? Would increased public education efforts help?

The most important way in which to ensure public confidence is for a governmental decision-maker to disclose and explain the bases for any decision reached. Such disclosure should include as a minimum all of the data on which the decision-maker relied, the methodologies actually used as well as those rejected and the reasons for their rejection, the results of peer reviews for the approach ultimately adopted, the manner in which underlying assumptions were formed and tested, the technologies considered and the nature of other entities' input which the decision-maker considered. If federal agencies made all of this information available and allowed both the affected local and state governments and the interested public to comment upon these aspects of the decision-making process in a manner which the agencies would then consider in a meaningful fashion, the agencies would be much less likely to be criticized for their ultimate decision. Here, if a comprehensive cost and risk analysis of all modes and routes for nuclear waste transportation were done, even though the route would eventually pass through someone's backyard, because the agencies would be able to defend their decision with an impeccable and proven technical rationale, they would have the support of all those entities and people truly interested in finding the safest route and would thus be able to ship the waste.

By contrast, the manner in which DOE has proceeded to analyse nuclear waste tranportation has engendered little if any confidence. Take for example the issue of risk along the routes to a western repository. The computer model which DOE used to assess risk is called RADTRAN. RADTRAN assesses risks of transportation along average, not specific routes. When DOE released its draft and final environmental assessments of the nine potential candidate sites for the first repository, DOE and the national laboratories were the only places in the country with computers programmed to run RADTRAN.

Many entities who commented on DOE's draft environmental assessments, including both states and citizen groups, challenged DOE's not having done RADTRAN risk assessments for the specific routes which would be used in shipping waste from the known reactor and defense sites to the known candidate locations. In response DOE asserted that making a decision based on an average route was acceptable and that the agency 'believed' that the difference between specific and generic calculations would be insignificant. This response did not engender public confidence only in part because it could not be verified at the time. In fact, the position was inherently unbelievable. Unless DOE had conducted at least one run with route-specific data for comparison purposes, the agency could not know whether using route-specific data would make a significant difference or not. Even though DOE may ultimately be correct that using route-specific data does not change the outcome of its RADTRAN assessments significantly, the agency cannot expect the public to accept that conclusion on faith. DOE should have at least conducted one RADTRAN run using route-specific data to demonstrate that the differences were insignificant; better yet, the agency should have gone back and done its entire transportation analysis on the basis of route-specific data.

A second example, also involving DOE, has to do with that agency's public representations of the level of cooperation that it enjoys with the states. In a reality where DOE is being sued for every major decision it has made pursuant to the Nuclear Waste Policy Act by repository candidate, neighbor and corridor states, for DOE to represent in Congressional hearings that it is cooperating with the states simply does not tell the whole story. This type of partial representation of the status quo simply fails to engender public confidence.

Public education is certainly an appropriate tool for bolstering public confidence in a federal program. However, more is necessary, at least in the case of the high level and transuranic waste programs. To reestablish any level of public confidence in the nuclear waste shipping programs, the federal agencies involved must, at a minimum, present solid technical documentation to justify their decisions and the agencies must submit the technical information and methodologies to peer review and solicit public comment. Then, the agencies must use the results of that open process to shape their decisions and resist the temptation to manipulate methods or data later, behind closed doors.

Senator EXON. Thank you very much.

Let me start out the questioning with a question to you, Mr. Dettmann. I think you were here earlier when I asked Senator Hecht or one of the other Senators that testified—I guess Senator Hecht had left the room. I asked Senator Proxmire about this proposition of routing trains around cities and how sure are we of the wisdom of that.

As a railroad man, what could you tell us in that area?

Mr. DETTMANN. Mr. Chairman, the rail system in our country developed from major center to major center because it served population and the growing industry. We have seen a contraction in the last 30 years of trackage in our country. It is probably right now 50 percent of what it once was.

Those tracks that are used at present are the ones that serve the population of our country and commerce. By definition, then, the trackage between our major city pairs is where we carry the most business, and this is where we have put our money since deregulation in the early eighties.

It takes approximately $300,000 to $500,000 per mile to upgrade trackage, which is prohibitive to do in peripheral trackage, not in that where we are carrying on a day to day basis hazardous materials and other items in commerce. So our routing position is basically do it on the safest track possible between city pairs, minimize the time in transit, which is subsequent exposure, and do it with the safety precautions that we in our industry presently know and work on with other hazardous materials transportation.

Senator EXON. I take it, then, from your statement that the type of legislation offered by Senator Hecht, while it would at first blush seem to make sense to route material around cities for safety reasons, could produce the opposite?

Mr. DETTMANN. Yes, sir. I think that circuitous routing could very well be counterproductive in the name of safety, because you will be on less safe track. You will not necessarily minimize the total population exposure just by virtue of the circuity.

In addition, if the trackage has not been used much, which is the case of non-metropolitan trackage, the trackage would not be the strength that you would want to carry hazardous wastes or the spent nuclear fuel.

Senator **Exon**. Let us take a typical example, Union Pacific Omaha to Salt Lake City, two major cities. Do you have trackage around Omaha, or do other railroads have trackage around Omaha, where you could take it by a route that would not go directly through Omaha? And likewise as you go through Salt Lake City, would there be trackage that would be optional to take it around the center of the community?

I am saying that—not being a railroad man, I would suspect that the best, safest, and most kept-up trackage would be to the heart of Omaha, Nebraska, and down to the heart of Salt Lake City, and on through West. Is that a safe assumption from a layman's standpoint?

Mr. **Dettmann**. Generally speaking, it is. There is one possible route around Omaha, but it would involve three different railroads and the coordination of those three to go back and forth, and you would only be getting about 70 miles west of Omaha, and then you're on the straight track to Salt Lake City.

There is no route around Salt Lake City at all. So when you look at the circuity, the trading off from railroad to railroad, the different crews involved, our experience has shown that the straightest and most direct is the safest.

Senator **Exon**. Thank you.

Senator Adams.

Senator **Adams**. Thank you, Mr. Chairman.

Mr. Dettmann, in your testimony, you indicate that the ICC has ruled that as common carriers you have to carry nuclear materials as they were other cargo, even if you believe they are too risky to carry. And it also denied your efforts as railroads to require special train treatment and special services.

And later you said that you believed that radioactive shipments should be made only by dedicated trains. Is that correct?

Mr. **Dettmann**. Yes, sir.

Senator **Adams**. Well now, even though DOE has said they are going to do this by dedicated trains, is it not true, as the lady from DOE said, that they are trying now to back out of their dedicated train agreement with you?

Mr. **Dettmann**. Yes, sir, that is correct. There have been statements made to public meetings in St. Louis that the transportation would be by dedicated trains. They are looking at and have discussed with us running them in regular freight service.

And we do not feel that that is the safest method to handle the instant shipment we are speaking of, which is the Three Mile Island wastes.

Senator **Adams**. We had that discussed before, and it goes through Kansas City and St. Louis at this point as I understand from Senator Danforth's questions. Is that not correct?

Mr. **Dettmann**. Yes, sir.

Senator **Adams**. And they are intending to mix this into your other cargo, correct?

Mr. **Dettmann**. Yes, sir.

Senator **Adams**. Do you not carry agricultural commodities in and out of the St. Louis and Kansas City area, including components for fertilizer?

Mr. **Dettmann**. Yes. We carry fertilizer itself.

Senator **Adams**. Do you carry propane?

Mr. **Dettmann**. Yes, we do.

Senator **Adams**. Do you carry chlorine?

Mr. **Dettmann**. Yes, we do.

Senator **Adams**. Do you carry ammonium hydrate?

Mr. **Dettmann**. We carry anhydrous ammonia.

Senator **Adams**. Anhydrous ammonia?

Mr. **Dettmann**. Yes, sir.

Senator **Adams**. I always had trouble with that one. That is the one that just poisons you instead of blowing up, right?

Mr. **Dettmann**. Yes.

Senator **Adams**. A low, slow moving cloud, yes.

On what basis have they approached you or said that they believe that it was appropriate to mix into your trains, which we know carry these other products, nuclear waste products, where we have had the testimony that with, for example, Truepack, which apparently they are petitioning to still use, can disintegrate in a fire in 35 minutes?

Mr. **Dettmann**. Initial discussions on the original move of Three Mile Island waste—we had discussions at one time about moving it in regular train service. Our preference was at that time to move it in special train service.

The rationale DOE has given us is that there is no proven safety factor on moving it in regular train service versus special train service and that, given cost considerations, their preference was to move it in regular train service.

Now, there are no statistics that will prove that special train service is superior in safety to regular train service because it has never been investigated before. As a railroad operating officer for 20 years and for my compatriots in the railroad industry, we feel very strongly that the special dedicated train service is the safest form of transportation for this material.

Senator **Adams**. Is it not true that if you have a mixed container and you have a fire occur for one of the other products, that you have a mixture that moves outside the expertise of an agency such as DOE, which is very skilled, I understand, or at least I am told, in nuclear materials, but not in such things as propane fires?

Mr. **Dettmann**. Yes, that is correct.

Senator **Adams**. I will ask for the record, and Mr. Bishop, maybe you can answer this, those casks and so on, a lot of them have an inner lining of zirconium. What does zirconium melt at, do you know?

Mr. **Bishop**. I have to go back to my old days as a nuclear engineer, Senator. I think it is about 2,600 degrees Fahrenheit.

Senator **Adams**. And a propane fire would melt that, would it not?

Mr. **Bishop**. I do not believe so, but I am not the expert on that subject as well. I believe propane burns at about 2,000 degrees.

Senator **Adams**. All right, I will ask somebody else. I can assure you I would not like to be in the area if the two mixed.

I had a question to you because I am concerned about what Senator Exon mentioned, and I am not sure we have addressed this in the hazardous materials. But we have transuranic fuels coming out of the plutonium train, we have spent fuel coming out of the reactors, and is it not true that at the end of the 25 year or so life—and correct me if I have got the wrong number of years—of your reactor, you are going to decontaminate them, break them down, and send them out West and bury them?

Mr. BISHOP. Senator, the licensed life of nuclear power plants is limited to 40 years by the Nuclear Regulatory Commission. There is a series of studies, some by industry, some by the Nuclear Regulatory Commission, some by others, to evaluate what the real physical life of a plant ought to be. But its licensed life by regulation is 40 years.

Senator ADAMS. Are some of these beginning to arrive at the end of their life?

Mr. BISHOP. Yes, sir.

Senator ADAMS. What are you going to do with them?

Mr. BISHOP. The Shippingport reactor is right now in the process of being decommissioned, which is how they refer to it.

Senator ADAMS. That is the one in Ohio?

Mr. BISHOP. Yes, sir.

The most cost effective way—I believe Shippingport is in Pennsylvania, Senator, but I may be mistaken as well.

The most cost effective way appears to be, by the analyses that have just recently been concluded, to be immediate dismantlement; to separate those things that can be decontaminated, and they can be buried in a variety of places, from those materials that must be buried as low level wastes or, in fact, as high level wastes.

Sooner or later, that will have to be done regardless of the operating life of the nuclear plant.

Senator ADAMS. That is what I am getting at, is that is the avalanche of materials that have to be either transported or left on site.

Mr. BISHOP. The great majority of that material that I think is of significant public concern is the spent fuel, and Congress has established under the Nuclear Waste Policy Act that DOE has responsibility for the ultimate disposal of that in a geologic repository.

Senator ADAMS. What about the core?

Mr. BISHOP. There will be other components that will be highly radioactive, but the nature and the type of irradiation and contamination that they have is not similar in content to that of the spent fuel.

One must treat all radioactive materials carefully, but they are not in the same category.

Senator ADAMS. I understand they are not the same. But the core is highly radioactive after years of absorption of electrons, is it not?

Mr. BISHOP. Yes, sir.

Senator ADAMS. And are they not going to ship that core through the transportation system and then—I do not know whether that part or whether it is one of the other parts—I would like to have you tell me—is then going to go through the Panama Canal and out to the West Coast to be unloaded and put on a railroad car, and then sent over and buried in Hanford, Washington?

Mr. BISHOP. Those materials must be disposed of somewhere. We had a recent experience with what is called a thermal shield at our Millstone Unit 2, which is again a highly radioactive piece of material, but it is confined into the metal itself. That was in fact shipped by train to Hanford and buried.

Presumably, there could be a great many more sites available for low level waste disposal, which most of this material is, on a regional basis, other than the three sites that are presently in operation.

Senator ADAMS. Mr. Mayer, you are in the type of business that concerns me most of all in the transport, which is the trucking business. Are any of these materials being transported either by owner-operators or by non-specialized carriers?

Mr. MAYER. On the low level materials, they are transported by owner-operators.

Senator ADAMS. What about the higher levels? Are they all done by specially equipped equipment in the trucking business?

Mr. MAYER. In relation to our company, yes, sir, they are.

Senator ADAMS. Do you think that this committee should require that such materials be carried by that kind of a trucking operation, as opposed to allowing it to be carried on a competitive basis?

Mr. MAYER. I certainly do.

Senator ADAMS. I did not hear your answer.

Mr. MAYER. I certainly do, sir.

I think that carriers engaged in the transportation of radioactive materials or highly toxic materials should be specially licensed. This is particularly true with the drift towards deregulation.

As it is right now, a carrier with general commodities, which is available to them from the Interstate Commerce Commission for virtually the asking, can haul radioactive materials up to the highest level.

Senator ADAMS. Do you wish to address that, Mr. Bishop or Ms. Kassen or Mr. Dettmann? Mr. Dettman, you are in the railroad business and I understand the division between modes. But do you wish to comment, Mr. Bishop or Ms. Kassen?

I am most concerned about truck transport, but from those transporting it and the fact that it is in highway mix, which leads to the problem I raised with Mr. Dettman of the accident involving a gasoline truck, propane truck, or a carrier of other type.

Transportation is very different than the internal workings of a utility, but I would be very happy to hear your comments, Mr. Bishop, or Ms. Kassen. Any of you wish to comment on that, besides what Mr. Mayer said?

Mr. BISHOP. The present DOT regulations have specific requirements for drivers of what under their regulations are called highway route controlled quantities, effectively spent fuel, high level waste, and that type of material. Those regulations I think are appropriate.

The DOT is examining, through a proposed rulemaking, increasing the requirements for training of drivers, but they now include a certification that the driver has been in fact trained in the cargo, the nature of the cargo, emergency response capabilities, has a designated route and an emergency plan in his or her possession as they travel, and an emergency response number.

That is unique, I believe, to high level radioactive material transport.

Senator ADAMS. And the equipment?

Mr. BISHOP. I bow to Mr. Mayer as to the specific equipment. Certainly the cask I feel is also unique. I know of no other hazardous material that is carried in a cask that is designed to withstand accident conditions. Whether the accident conditions are appropriate ones is perhaps a different argument and perhaps before a different committee. But I think those casks are in fact unique in the hazardous materials business.

Senator ADAMS. Ms. Kassen.

Ms. KASSEN. Senator Adams, we believe that with regard to highway routing and minimum operator training standards, the Department of Transportation has begun to take the necessary regulatory steps. However, we do not believe that they have done far enough in that regard.

And certainly, coming from the state of Colorado, where we had a rather dramatic accident with a driver who had had three previous trips spilling torpedoes onto an interchange, it is the sort of thing where we believe not only do you need to have regulations in place, but more importantly they need to be enforced.

And to enforce them, we would endorse the proposal, for example, of Senator Proxmire with regard to the need to file in advance a routing plan that can be checked, which would demonstrate that in fact the vehicle and the cask had gone through adequate maintenance, that the driver did have the training, that the route had been approved by the state and local communities, as well as at the national level. All of those things are necessary before you are going to have safe transportation.

Senator ADAMS. Ms. Kassen, we heard the Federal agencies testify today, and all of us asked them certain questions. But I will ask you a generic question on it. Do you believe there is a difference between the assurances that the Federal agencies give us, that really there is a memorandum of understanding and all is working well between them, and the practice as you see it in the land, what actually occurs?

Ms. KASSEN. I do, sir, for several reasons. First of all, the Environmental Defense Fund is allied with states, particularly Colorado and Nebraska, on the issue of transportation, and from my contact within those States' offices they do not paint such a rosy picture of cooperation.

I can give you a specific example, and that is with regard to the program in Illinois. Illinois has what the Nuclear Regulatory Commission has called a model statute. They have inspections at the borders, and there is an escort service that takes nuclear materials shipments through the state. They do emergency response training.

All of that is funded by a shipping fee on each cask. Now, the Department of Energy is not in favor of that kind of program, and in fact they do not pay the shipping fee, even though they are the largest or one of the largest shippers of nuclear materials in the country.

So on the one hand, the Department of Energy will say to you that they are cooperating with the states, and on the other hand there is a state program that the NRC has said is a model program and that the Department of Transportation, at least at the first level of agency review, has found not to be preempted, and yet the Department of Energy is not only appealing the DOT ruling, but refusing to abide by the shipping fees that are enforced as a part of that program.

Senator ADAMS. It is my understanding the lawsuit you referred to is one where the states of Colorado and Nebraska have intervened and filed litigation, calling into question the DOE guidelines on the permanent geological repository because DOE did not address in that adequately the transportation problems of getting to it.

Ms. KASSEN. That is correct, sir. And there is a follow-up piece of litigation on the transportation issues as presented in the environmental assessments DOE released last year, also with the same three parties.

Senator ADAMS. Thank you.

Thank you, Mr. Chairman.

Senator EXON. Thank you, Senator Adams.

I have just two questions and then we will let you folks go. I again thank you for being so patient.

You have heard the discussion today about safety, the response, how do we provide training in the rural areas where we have volunteer firemen. I heard you, I believe, Mr. Dettmann, indicate the amount of money that Union Pacific spends for training, and I assume that is training of your crews; is that correct?

Mr. DETTMANN. Our crews and also volunteer fire departments and fire departments along our 21,000 miles of railroad, Senator.

Senator EXON. Oh, you do do some of that.

I suppose you are not satisfied with the level and degrees of training, at least as far as the volunteer firemen are concerned?

Mr. DETTMANN. No, we are not. However, there is a point, Senator, where we cannot train everybody all the time. At the volunteer fire department level, what we have done on Union Pacific is on every train we have information on what to do in case any one of those cars gets into trouble, whether it is on fire, not on fire, if you have a release of product but there is no fire, evacuation.

And the whole thrust is to provide this to the volunteer firemen, the deputy sheriff, those that do not come in contact with this every time. This type of information we feel is what is necessary, i.e., immediate and relatable to the incident, without making all of the volunteer firemen and even our smaller town firemen experts in all of the various commodities that can move through their town.

Your suggestion of the SWAT team at a major location, we have those in Omaha on Union Pacific, and other railroads do, too, that are specially trained in hazardous material response.

A typical incident would go that our crews would give to the first people driving up what material is suspected in there, and it is obvious whether it is on fire or not, or if the container is breached.

Now, at that point in time perhaps the safest thing to do is to get everybody away and then let those people who are subsequently more detailed trained, at such places like the AAR's Pueblo test center, which is outstanding as it deals with railroad accidents, an outstanding method of teaching to the various people.

Union Pacific sends one fireman or group from each state that we serve each year to the Pueblo test center for two weeks, fully funded by UP, to train these people in the detailed methods of incident investigation and then what to do, how to get away from it.

So I apologize for being so long, but I think we must look at the various levels of response as to what we expect people to do, and then get the Federal effort coalesced in one place to then begin a formal organized training as to what we expect of our people.

There is enough money being spent. There is enough energy being spent. But we just do not have it all together in one place and getting down to the people that need it.

Senator EXON. That person that you send to Pueblo for training, let's say from the Ravenna Fire Department, is that individual expected to go back then and impart that knowledge that he received there to the others, to the volunteer firemen in that area? Or how does that work?

Mr. DETTMANN. It will be on an informal and an awareness basis, Mr. Chairman. It will not be that he takes the program back and teaches the other ones. It is too detailed and too complex, and he is one—let us call him an expert in each of these places, that will be the one to whom all others will turn.

Senator EXON. In other words, if there is an accident in that area, the expert hopefully would not be on vacation or someplace, and he would come out and direct the activity, is that correct?

Mr. DETTMANN. That is correct.

Senator EXON. I have one last question, and that has to do with—you have heard the Department of Energy's concerns about dedicated trains. They keep talking about the cost factor on that.

Can you explain to me approximately how much more a shipper might expect to pay for use of a dedicated train, or a group of shippers going together and arranging shipment on a special train? Is it a significantly increased cost using a dedicated train as opposed to a mixed train?

Mr. DETTMANN. Basically in the ballpark, Mr. Chairman, we are looking at a dedicated train versus normal transportation of spent fuel, we are probably looking at in the neighborhood of five times what the car moves for that you would get a train for.

Now, one of the things that has been done—there were originally 40 TMI shipments that Union Pacific gets at St. Louis and goes on to Idaho. There have been shipments where both of the casks that are constructed rode on the same train.

There is no additional cost for however many casks or shipments are on this special train. That is basically just our cost for the train itself. However much you want to put in there is up to the shipper.

Senator EXON. I was surprised at the earlier testimony. I think you were here; I think maybe you were surprised, too. When we asked the question, the percentages of hazardous material that moves on the different modes of transportation, and I believe, if I remember correctly, that the testimony was that about 60 percent of the hazardous material moves on trucks, the other 40 percent moves on either barge or rail, and barge carried more than rail.

In other words, rail was the smallest volume carrier of hazardous material. I was surprised to hear that. I assumed that rail and truck would split that about down the middle. Why is that?

It is just easier for the trucks to go to a place where the hazardous material is, pick it up in the proper containers, and take off across country with it? Is that the answer?

Mr. **Dettmann**. Well, Mr. Chairman, I think you will have to look at what the definition of a hazardous material is; 50 percent of that is gasoline, and the gasoline will be coming from the pipelines or the tank farms to a 25 or 30 mile radius for the fuel usage of the citizens of our country.

On the other hand, there is a lot of short haul truck business in the Louisiana and Texas Gulf markets in between the various manufacturing complexes. Barge likewise has got significant volumes in a barge, but it moves along the Gulf Coast or up the Mississippi.

Rail itself is strictly Southwest into the heavy Northeast, the West Coast through Nebraska, on longer haul volume shipments, and a much greater spread of chemicals. There are various hazardous materials that are only allowed in bulk in rail transportation.

Senator **Exon**. Well, let me ask this question. Let us take nuclear wastes as a part of this total waste. Could you give us the approximate breakdown between those three modes of transportation for nuclear wastes only?

That would be a significantly different figure, because I can see how gasoline would distort the percentage. But I'm talking nuclear wastes now. Do you have any idea what those figures are?

Mr. **Dettmann**. I know that there is none moved by barge. Just in my experience, we are probably looking at twice as much by truck as by rail, say two-thirds truck and one-third rail in our country.

Would that agree with the approximate numbers that you have?

Mr. **Mayer**. I would have to guess that that is pretty close.

Senator **Exon**. Since Union Pacific and I assume some of the other railroads are going through these processes for training and so forth and so on—you talked about taking the people to Pueblo—is the trucking industry that move nuclear waste doing any training as far as local areas are concerned?

Mr. **Mayer**. Well, I can only speak for Tri-State. We do have a training program. We have a qualified health physicist on our staff. And we have sent people to the—what is it, down in Baton Rouge, Louisiana, that school.

Senator **Exon**. Anyway, a school.

Mr. **Mayer**. Yes, LSU. They have a nuclear course down there.

Senator **Exon**. Who do you send down there, Mr. Mayer? Are those your drivers and your people, or some of the local people whose cities or towns you run through?

Mr. **Mayer**. We have a regular safety department in our organization, people who are in the field. They respond to accident situations and they check on our trucks to make sure that they are in full compliance. They operate somewhat like a private police force.

And it is these people that we have been giving the training to.

Senator **Exon**. But they are employees of the trucking line?

Mr. **Mayer**. They are employees.

Senator **Exon**. As opposed to firemen?

Mr. **Mayer**. Oh, yes.

Senator **Exon**. That was my question.

Thank you very much.

I have no further questions. Anything else, Senator Adams?

Senator **Adams**. Just one. Mr. Dettmann, is your program the exception or the rule in the railroad industry, the very elaborate one that you mentioned?

Mr. **Dettmann**. For training?

Senator **Adams**. The emergency response, the thing that Senator Exon was mentioning, the very elaborate program you have for the cars and the training and the SWAT teams and so on.

Mr. **Dettmann**. We are on the leading edge, Senator. But I would say the general thrust of all the major carriers in the railroad industry is this way. We do have a tremendous cooperation with the various chemical companies in working together to provide safe rail transportation.

So I would say generally speaking the other major carriers in the country are doing things along the same lines we are.

Senator **Adams**. I thought you were out in front, though. You are, are you not?

Mr. **Dettmann**. Yes, sir.

Senator **Adams**. Thank you, Mr. Chairman.

Senator **Exon**. Ms. Kassen, just one last question of you. You heard the questions that I was asking earlier of the various Federal officials and others with regard to the notification of states and localities.

And I talked particularly about the difficulties that the Kerrey Administration had last year, and we concluded more or less I suspected that that was a breakdown in communications, and I think probably that is right. They indicated that they could not remember any other breakdown in communications like that.

From your perspective, has there been cooperation that the various Departments indicated to us in testimony here today that there was, with advice to states and local communities on hazardous materials of the type that we are talking about today?

Ms. **Kassen**. Again, I think that there has been some communication. I do not know that the states would say that the questions that they had asked had been answered. And I think that with regard to notification, if you were to talk to some of the folks down in Texas on some barge shipments, they would say that there had been other incidents.

I think the incidents on prenotification are probably isolated. However, with regard to getting information from the Federal agencies, I would say that those people who are interested in these issues in the states, at least the people who we talk to, would say that uniformly it is difficult to get answers to the questions that they ask on nuclear materials issues.

Senator **Exon**. Thank you all very much, and we are adjourned.

[Whereupon, at 5:55 p.m., the subcommittee was adjourned.]

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF RAILWAY LABOR EXECUTIVES' ASSOCIATION

My name is J.R. Snyder. I am the National Legislative Director of the United Transportation Union. I am appearing today as Chairman of the Safety Committee of the Railway Labor Executives' Association. Accompanying me is Lawrence M. Mann, attorney for RLEA in this matter. The RLEA represents all the crafts of the railroad workers in this country.

The RLEA has always been at the forefront in seeking improved railroad safety, and the safe transportation of hazardous materials is the most critical. The nation's railroads transport approximately 3,000 car loads of hazardous materials daily totaling about 75 million tons annually. In addition, many thousands of cars contain hazardous residue and, if released, capable of causing serious injuries or death. Fortunately, there have been no railroad related deaths from hazardous materials accidents in six years. Nevertheless, there is a cautious recognition that we have been very lucky in the railroad industry in recent years. It is deceptively easy to gloss over some major underlying problems when no death-causing catastrophes have resulted for some time. We would like to point out that there have been a number of railroad accidents that very easily could have been devasting.

A recent accident in Pittsburgh will underscore this concern. On April 11, 1987, two Conrail freight trains collided in a crowded neighborhood. Several of 34 derailed cars began to burn which caused 14 relatively minor injuries and the evacuation of more than 16,000 persons. The train contained a derailed leaking car loaded with phosphorus oxychloride, a liquid used as a gasoline and hydraulic fluid additive. This liquid turns to vapor in the air and can be lethal in heavy doses. The train was also hauling toluene disocyanate, a flammable substance that can irritate lungs, skin and eyes. What if the accident, instead, involved the rupture of an old tank car carrying liquid propane gas and there was not time to evacuate the residents? It is inevitable that with so many railroad accidents occuring a catastrophe is likely to happen. Everything possible must be done to mitigate against the possibility of deaths and injuries from such accidents. RLEA does not perceive the DOT actions in the past as anything other than reactionary to prior accidents. There should be preventative steps taken instead. An Office of Technology Assessment study on the *Transportation of Hazardous Materials* released in July 1986 at page 8 similarly recognized this overall problem.

One example will demonstrate this point. The railroad industry and the DOT were aware in the early 60's that serious safety problems existed in the uninsulated railroad tank cares that transported liquid propane gas as well as ammonia. Literally nothing was done about the hazard until a public outcry demanded action after a disaster at Waverly, Tennessee, in 1978. Then only did the DOT move to require headshields, shelf coupler's and thermal insulation on *certain* jumbo sized tank cars. Incidentally, it took DOT 6 years to finalize the rule.

We will now point out to the Committee some of the major safety problems which still exist and need legislative attention in the transportation of hazardous materials by rail.

1. There are no specific federal requirements for training of railroad workers involved in hazardous materials accidents. Obviously the railroad crew members are the first persons on the scene and each one should be adequately prepared to deal with any emergency. Overall, the railroads provide haphazard and inconsistent quality of training. Of course, some railroads have adequate training programs, while many others give the workers only minimum information.

On October 9, 1983, the House Committee on Government Operations issued a report related to the training of workers involved in the highway transportation of hazardous materials. It found that

"... the Department has been singularly ineffective in recognizing its obligation to promote safety through improved worker training. That neglect is reflected in DOT's weak and vague regulations concerning the training of ... personnel involved with the highway transport of most hazardous materials and its near total failure to enforce those standards." (House Rept. No. 99-985 at p. 2).

That Congressional report dealt only with highway transportation, but the exact situation exists with respect to rail transportation.

We propose that a mandatory training program for rail workers, including training grants for worker organizations, be included in the Hazardous Materials Transportation Act. By way of background, the Superfund Amendments and Reauthorization Act of 1986 made available up to $10 million per year for the next five years for training and education of workers engaged in activities related to work at hazardous waste sites or related to emergency response teams.

As important as the Superfund training programs are, they generally are not applicable to the training needs of rail workers. Employees in the railroad industry need targeted programs that will help in preventing hazardous materials accidents, and programs that will teach them the proper procedures to follow when emergencies—or potentially dangerous situations—do occur. Rail workers generally are not members of an officially-designated emergency response team, but their normal job functions often place them in positions that result in their being the first to come in contact with hazardous materials accidents.

Therefore, to deal with training needs related to hazardous materials in the railroad industry, we propose that the Hazardous Materials Transportation Act be amended to:

a. Establish minimum training requirements for the railroad industry, similar to those proposed for the trucking industry by Senator Wirth in S.1269. The training programs should be tailored specifically for the purpose of preventing railroad accidents involving hazardous materials, and teaching workers in all relevant railroad crafts the appropriate responses to emergency or potential emergency situations.

b. Provide cost-sharing, start-up grants from FRA to rail labor orgainzations to enable their effective participation in the planning and implementation of the training programs. The labor organizations will face sizable initial costs in preparing technical information, establishing in-house technical capabilities, and putting into place procedures for assuring continuing involvement with the training programs by their members.

2. One of the most critical problems has arisen because of a court decision issued on October 10, 1986, in the United States District Court in Georgia. The order which is attached is captioned *Southern Railway Company* v. *John H. Riley, et al.*, C84-1990A. The decision wipes out any effective enforcement authority in the FRA under the Hazardous Materials Transportation Act. It would require that a railroad have "actual" knowledge of a wrongful act before a violation exists. As yo can realize, it is almost impossible to ever establish "actual" knowledge of a violation. If not corrected by legislation that railroads will be given carte blanche to violate the hazardous materials laws, and little could be done about it. Immediate action must be taken by striking the word "knowingly" from 49 U.S.C. § 1809(a)(1) which relevant part now states:

> Any person (except an employee who acts without knowledge) who is determined by the Secretary, after notice and an opportunity for a hearing, to have *knowingly* committed an act which is a violation of a provision of this chapter or of a regulation issued under this chapter, shall be liable to the United States for a civil penalty. . . . (emphasis added).

3. As previously mentioned the DOT rule for jumbo tank cars does not cover all tank cars which carry the same hazardous materials. There are approximately 10 to 15 thousand small sized tank cars that carry the same products as the jumbo tank cars. These are much older than the jumbo tank cars and are not covered by the 1984 regulation. *See also* NTSB Report No. RAR-85-10 at page 10 where the Board stated that it is "concerned that the complete spectrum of DOT specification tank cars authorized to carry materials posing risks to public safety if punctured or otherwise breached was not addressed in the rule." In connection with this point, H.R. 2056 addresses generally the problem with all tank cars built before 1971. Irrespective of the date of manufacture, if the tank car transports a hazardous material such as LPG, the car should be retrofitted to meet the protections contained in the 1984 rule for larger sized tank cars.

4. Nuclear waste shipments are expected to increase significantly as nuclear power plants reach waste storage capacity. Previous fire test on railroad nuclear waste containers have indicated that in some railroad fires, these containers can emit harmful radiation. Rail shipments of cryogenic materials are also expected to increase significantly. Many such materials are toxic and flammable but there are no requirements that the rail cars have fire protection.

5. In the fall of 1986 the RLEA petitioned the DOT's Research and Special Program Administration for 10 changes in the regulations governing hazardous materials transportation by rail. We also sought a hearing on the proposals. To date the RSPA has only given the petition a docket number. I am attaching a copy of our Petition, which will apparently require Congressional legislation for implementation. DOT has taken no positive action on it and in RSPA's presentation to the Committee it did not mention any of the proposals in our Petition.

In conclusion, RLEA wants some positive action taken to help assure safe transportation of hazardous materials. The proposals set forth in this statement will go a long way in accompanying this need.

STATEMENT OF TERRY R. LASH, DIRECTOR, ILLINOIS DEPARTMENT OF NUCLEAR SAFETY

Mr. Chairman, my name is Terry R. Lash. I am the Director of the Illinois Department of Nuclear Safety (IDNS). IDNS is one of only two cabinet-level departments of state government devoted solely to nuclear safety. IDNS has the primary responsibility for all State governmental regulation of the transportation of nuclear and radioactive materials, insofar as such regulation pertains to the radiological protection of the public.

I am pleased to have the opportunity to present this statement regarding the Hazardous Materials Transportation Act. I would like to focus on issues associated with transportation of one type of hazardous material—spent nuclear fuel. My statement will describe the Illinois spent nuclear fuel transportation program and identify some of the problems we have encountered. Most if not all of these problems could be eliminated by enactment of appropriate federal legislation.

I. THE ILLINOIS SPENT NUCLEAR FUEL TRANSPORTATION PROGRAM

On June 19, 1979, the Illinois General Assembly passed the Illinois Nuclear Safety Preparedness Act (INSPA). INSPA was signed into law by Governor James R. Thompson and became effective on September 14, 1979. The purpose of INSPA is stated in Section 2:

It is declared to be the policy of the General Assembly to protect the people of the State of Illinois against adverse health effects resulting from radiological accidents by establishing a mechanism for emergency preparedness to mitigate the effects of such accidents. The General Assembly finds that it is appropriate that the nuclear industry in Illinois bear costs associated with preparing and implementing plans to deal with the effects of nuclear accidents. The fees assessed by this Act are intended to cover the costs of the Nuclear Safety Preparedness Program authorized by this Act.

INSPA imposes annual fees on owners of nuclear power plants and away-from-reactor spent fuel storage facilities. INSPA also imposes the following "transportation fees":

$1000 per cask for truck shipments and $2000 per cask for rail shipments of spent nuclear fuel received at or departing from any nuclear power station or away-from-reactor spent fuel storage facility in Illinois, to be paid by the owners of such facilities; and

$1000 per cask for shipments of spent nuclear fuel traversing Illinois, to be paid by the owners of the shipments.

Pursuant to a directive from Governor Thompson, since July, 1983, health physicists from IDNS have inspected and escorted all rail and highway shipments of spent nuclear fuel in Illinois for which IDNS has received advanced notification. As of April 24, 1987, a total of 353 shipments had been inspected and escorted. Highway shipments of spent nuclear fuel are escorted by IDNS health physicists and hazardous materials officers of the Illinois State Police. Rail shipments are escorted by IDNS health physicists and inspectors of the Illinois Commerce Commission. The Illinois inspection and escort program is described in more detail in "Illinois Spent Nuclear Fuel Transportation," a report prepared for the U.S. Department of Transportation. While the procedures described in the report are current, the inspection forms have been changed.

II. PROBLEMS

A. Alleged Inconsistency With Hazardous Materials Transportation Act.—On March 21, 1985, Wisconsin Electric Power Company (WEPCO) applied to U.S. DOT for an administrative ruling on the question of whether the transportation fees imposed under INSPA were inconsistent with and thus preempted by the Hazardous

Materials Transportation Act (HMTA). On June 6, 1986, U.S. DOT's Director of the Office of Hazardous Materials Transportation found that the Illinois fees were not preempted by the HMTA. (U.S. Department of Transportation, Research and Special Programs Administration, "Illinois Fee on Transportation of Spent Nuclear Fuel; Application for Inconsistency Ruling by Wisconsin Electric Power Company", Ruling No. IR-17, Docket No. IRA-34; *Federal Register* 51, No. 110, June 9, 1986, 20926–34.) Appeals of the ruling were filed with U.S DOT's Administrator of Research and Special Programs on September 3, 1986, by WEPCO, the Utility Companies' Nuclear Transportation Group and the U.S. Department of Energy (U.S. DOE). The appeals are currently pending.

B. Noncompliance by U.S. DOE.—Sixteen of the spent nuclear fuel shipments in Illinois since the imposition of the transportation fees have been by U.S. DOE. Despite repeated requests for payment of the fees assessed under Illinois law, U.S. DOE has refused to pay any of the fees. The current balance due is $19,000. The reasons stated by U.S. DOE for its refusal to pay are: 1) the fee is inconsistent with the HMTA; 2) imposition of the fee unduly burdens commerce; and 3) imposition of the fee constitutes an invalid attempt to tax the Federal Government. U.S. DOE has stated that while it appreciates the efforts of IDNS to ensure the health and safety and recognizes the important role states play in enforcing Federal transportation regulations, it believes that safe transportation of spent nuclear fuel shipments can be best achieved through a uniform national transportation program. (See August 20, 1986, letter from S.R. Foley, Jr. to Terry R. Lash, attached as Exhibit B.) A response to U.S. DOE's arguments and final request for payment has not been answered. (See March 4, 1987, letter from Terry R. Lash to S.R. Foley, Jr., attached as Exhibit C.)*

III. NEED FOR FEDERAL LEGISLATION

Illinois' spent fuel transportation program has been challenged by a segment of the nuclear industry and by U.S. DOE because it is allegedly inconsistent with Federal law. However, U.S. DOT has found that the program is not inconsistent with the HMTA and the Nuclear Regulatory Commission has suggested that other states consider the Illinois program. (U.S. Nuclear Regulatory Commission, "The State of Wisconsin; Denial of Petition for Rulemaking," *Federal Register* 51, No. 200, October 16, 1986, p. 36824.)

While there are merits to the uniform national transportation program favored by U.S. DOE, the reality is that there is no such program. Until that time, the public should not be deprived of the protection provided by spent fuel transportation programs like that of the State of Illinois.

The real heart of the controversy over the Illinois spent fuel transportation program is money. Neither U.S. DOE nor the nuclear industry wants to pay the costs of the inspection and escort program. Presumably they believe that program costs should be paid not by the entities that are responsible for the hazards posed by the shipment of spent nuclear fuel but by Illinois taxpayers through general taxes. We submit that the Illinois "user fee" scheme is reasonable and fair. Although IDNS strongly disputes U.S. DOE's position and we fully expect to prevail in any forum where U.S. DOE could advocate its position, Congressional direction supporting Illinois' program would eliminate the waste of resources that would have to be committed defending it. We request, therefore, that consideration be given to enacting new Federal legislation that expressly approves programs like the Illinois program and expressly provides that Federal agencies, including U.S. DOE, shall pay non-discriminatory State "transportation fees." Such a statute would render moot U.S. DOE's arguments that State "transportation fees" under INSPA are preempted, unduly burden commerce and constitute impermissible taxes on the Federal Government.

STATEMENT ON BEHALF OF THE NATIONAL INDUSTRIAL TRANSPORTATION LEAGUE

The National Industrial Transportation League appreciates this opportunity to present its views on the reauthorization of the Hazardous Materials Transportation Act. The League believes that improvements in the HMTA are necessary to enhance the safe transportation of hazardous materials.

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*As of March 4, 1987, U.S. DOE had made 15 shipments of spent nuclear fuel in Illinois since the imposition of the fee, for which a total of $17,000 in fees was owed. A sixteenth shipment of two casks occurred on March 23, 1987; this shipment raised the balance due to $19,000.

The League is a voluntary organization of shippers, shippers' associations, boards of trade, chambers of commerce, and other entities concerned with the purchasing of freight transportation services. It is the only nationwide organization representing shippers of all sizes and commodities using all modes of transportation to move their goods in intrastate, interstate, and international commerce. Its members, directly or indirectly, are responsible for the routing of about 80 percent of the nation's commercial freight.

It is essential for the Act to clearly define the roles of federal, state and local government in regulating this transportation. The League believes that the present language of the Act fails to do this.

Section 102 of the Act requires the Secretary of Transportation to develop a regulatory and enforcement program which adequately protects the nation against the risks to life and property inherent in the transportation of hazardous materials. Section 112 of the Act provides for the preemption of state or local requirements that are inconsistent with the federal requirements. Case history shows that it is very difficult to demonstrate that a non-conforming state or local requirement is inconsistent. The resulting hodgepodge of differing transportation requirement reduces, rather than improves, safety in the transportation of these commodities.

The League believes that state and local governments should be active participants in this regulatory process. Their involvement is essential to maintaining and enhancing the current favorable safety record. One of the major criticisms of the federal government is that it does not have an adequate police force to enforce its safety requirements. We agree that federal enforcement efforts lack the necessary resources to effectively oversee compliance.

However, the recent hiring of nearly 150 federal safety inspectors within the Department of Transportation should improve the situation. More state and local involvement also will add tremendously to overall transportation safety efforts. By adopting the federal requirements and using their enforcement capability to buttress that of the federal government, state and local officials will have gone a long way towards rectifying this problem area.

Routing of hazardous materials traffic is another area where state and local involvement is essential. If local conditions require routing, no one should expect federal employees to select the optimum route through a given community. However, in order to promote consistency in the nation's overall routing mechanism, the federal government should establish parameters that would guide state and local communities in their route selection process. The DOT published such a routing guide in 1980. State and local communities should be required to consider the guide's provisions in their route selection process. When a dispute arises, as it more than likely will among neighboring jurisdictions, the federal government should act as an arbitrator. In any event, the League believes the federal government should have the final say over whether a state or local route plan conforms with the federal guidelines and achieves optimum safety.

Much has been said about the need for more training of emergency responders. However, little has been done by any of the involved groups to quantify actual training needs. While DOT and the Federal Emergency Management Agency have studied this issue, they were quick to point out that more information is needed.

No one disputes the training needs of emergency responders. As a matter of fact, industry has taken a lead role in working toward fulfilling this emergency response training need through programs such as the Chemical Manufacturers Association's National Chemical Response and Information Center, and its Community Awareness and Emergency Response initiative.

The League believes that the creation of any federal fund to address this problem be tied to a needs assessment and a review to determine the best use of existing resources. We would object to contributing to a fund that is not designed to meet identifiable needs. We also believe that if states and localities participate in this fund, they should be required to forego the imposition of their own fees as well as to adhere to the federal rules and guidelines.

Levels of training will not necessarily be the same for all emergency responders. Some are located along major transportation routes, while others may have a very limited amount of traffic. Some right now may be quite capable of dealing with an accident involving hazardous materials, while others are not. The point is no valid assessment has been made, therefore no one knows the amount of money that is needed or where it should be spent. These are two fundamental questions that we believe must be answered in the creation of any federal assistance program for this training.

There is a mechanism available right now to begin developing this information. Under Title III of the Superfund Amendments and Reauthorization Act of 1986, states are required to form emergency response commissions and local emergency planning committees. The League believes that a fundamental objective of these state and local groups should be to analyze the emergency response preparedness of their states or regions. This analysis should include a review of what resources currently exist within communities, what mutual aid programs are in effect, what levels of assistance are being provided by governmental bodies and industry, and what needs remain to be addressed.

In summary, the League believes that better coordination is needed among federal, state and local authorities in developing and enforcing a nationally uniform hazardous materials transportation regulatory system. Before any federal fund is established for training emergency responders, an adequate needs assessment should be conducted. Title III of the Superfund Amendments and Reauthorization Act provides the appropriate mechanisms to accomplish this needs assessment.

We appreciate this opportunity to present the views of the shipping community. We look forward to working with this committee in developing an improved regulatory system which enhances the safety and efficient movement of these essential commercial cargoes.

STATEMENT OF THE PRIVATE TRUCK COUNCIL OF AMERICA

The Private Truck Council of America, Inc. ("PTCA") is an independent national organization representing the interest of 1,500 companies that operate truck fleets in furtherance of a non-transportation primary business. Our membership includes a number of Fortune 500 companies as well as many smaller concerns, and comprises a cross-section of American manufacturing, wholesaling, retailing and agricultural enterprises.

Seven hundred PTCA members regularly transport hazardous materials, either in bulk or packaged quantities. Our members haul everything from home heating oil to rocket fuel for the space shuttle, and they are immensely interested in legislation to reauthorize the Hazardous Materials Transportation Act and the probable effects it will have on existing federal, state and local regulatory programs. A number of specific areas of interest need to be addressed in this legislation.

UNILATERAL STATE AND LOCAL ROUTING RESTRICTIONS

In efforts to protect their citizens, many state, county and municipal governments have taken it upon themselves to impose routing restrictions on shipments of hazardous materials going through, into or out of their jurisdictions. The restrictions may be time-of-day restrictions on certain routes, registration and/or prenotification requirements, or an outright ban of certain commodities on any route in the area. While these regulations are well-intentioned, they are often enacted with little or no regard for the effect of such prohibitions on surrounding jurisdictions, businesses and consumers in the areas that rely on the hazardous materials, or the actual risk involved.

Recently a county in the Washington, D.C. metropolitan area imposed a ban on all movements of federally-regulated hazardous materials on all highways in the county between the hours 7 a.m. and 7 p.m. When informed that this would mean that no service station could receive shipments of gasoline during those hours, the county council members were surprised—they did not mean to include gasoline, only "hazardous materials."

This scenario is being repeated across the country. Often a governmental body will hear of a particularly dangerous incident that occurred somewhere else (e.g., the spilling of torpedos on the Interstate highway in downtown Denver during rush hour, or the detonation of military ordnance in a small town in Oklahoma), and justifiably try to prevent such occurrences from happening in its locality. But without specific knowledge of the commodities to be regulated, the operations of the trucking industry, and the existing federal and state regulatory programs, these "quick fix" solutions serve only to transfer the problem to another jurisdiction or unnecessarily burden the businesses and individuals within the state or locality. Manufacturing and trucking interests are going to court with increased regularity to contest the necessity of these regulations.

PTCA supports federal legislative provisions which would accomplish two objectives to make hazardous materials transportation regulation more uniform throughout the country:

(1) require that the federal hazardous materials transportation regulations apply to both interstate *and* intrastate movements (at present, the Department of Trans-

portation has authority to apply its rules to intrastate traffic but has not opted to do so); and

(2) require that all state or local governments consider specific factors prior to imposing restrictions on hazardous materials shipments in their jurisdictions; these factors should include:

(a) the effect of routing restrictions on traffic in adjoining communities;

(b) the effect of registration, fees or routing restrictions on the cost of transporting hazardous materials;

(c) specific designation of alternate routes for hazardous materials during periods of restriction;

(d) varying levels of product risk involved; and

(e) the requirements of businesses and consumers in the jurisdiction that rely on shipments of hazardous materials.

Shippers and carriers are not so much concerned with the stringency of hazardous materials transportation regulations as with the multiple and often conflicting sets of regulations that apply from state to state or locality to locality. Strict but uniform regulatory requirements will promote the safety of hazardous materials movements and ease the compliance burden on shippers and carriers.

HAZARDOUS MATERIALS INSPECTIONS AND AUDITS

The most direct and cost effective way of ensuring compliance with the federal hazardous materials transportation regulations is by increasing the number of roadside inspections of vehicles, drivers, and documentation, and by increasing the number of carrier safety audits. In the non-hazardous materials area, frequent roadside inspections have been shown to dramatically improve the safety performance of motor carriers. According to the Tennessee Public Service Commission, for example, fatalities from accidents involving trucks fell 20% in 1986 as a direct result of more frequent roadside inspections.

Similarly, the California Highway Patrol has data from 1976 to 1985 indicating a very strong inverse relationship between the number of roadside inspections conducted and the number of truck-at-fault accidents. PTCA suggests that such results could be extended to hazardous materials transportation as well.

Presently, the Motor Carrier Safety Assistance Program ("MSCAP") is authorized on a contract basis at $50 million annually for fiscal years 1987 and 1988, and at $60 million for fiscal years 1989-91. This program provides federal funds to the states to train motor carrier safety personnel and to conduct roadside inspections and safety audits. The states have discretion to use the funds either for general inspections and audits or hazardous materials inspections and audits. The national figures for inspections and audits conducted under MCSAP are as follows, according to DOT:

	Non-hazardous materials inspections	Hazardous materials inspections	Total safety audits	Hazardous materials audits
FY 1984	142,901	16,446	0	0
FY 1985	328,246	38,623	1,236	162
FY 1986	458,587	54,948	1,532	142
FY 1987 (Projected)	1,247,490	132,233	3,574	(1)

[1] Unknown

While the number of hazardous materials inspections has grown substantially each year under MCSAP, PTCA proposes that additional funding for MCSAP be included in the HMTA reauthorization bill and be specifically earmarked for hazardous materials inspections and management safety audits. This approach goes directly to the vehicles and drivers on the highways and creates a significant deterrent effect even for those carriers not immediately subject to inspection or audit. With additional funding MCSAP could provide the vehicle for a nationwide campaign to upgrade the safety performance of hazardous materials transporters.

REGISTRATION OF SHIPPERS AND CARRIERS OF HAZARDOUS MATERIALS

Several commentors, including the Office of Technology Assessment, have suggested that registration of all hazardous materials shippers and carriers, and even container manufacutrers, would provide necessary information on the type and amount of hazardous materials transported.

PTCA would endorse a registration program, but only with several conditions:

(1) That registration not be an end in itself. Another pile of data sitting idly in a government computer file is not what we need or want. Instead, commodity flow data should be gathered to effectively plan emergency response training programs, records of inspection results should be developed for each registrant and used to target poor performers for safety audits, and the registration list should be used to communicate information on government hazardous materials regulation to the carriers and shippers and to solicit input on proposed regulatory amendments.

(2) That carrier registration not be a precondition to operating. The American Trucking Association has proposed a registration program, including safety fitness and proof of financial responsibility, as a precondition for certification to haul hazardous materials. PTCA vehemently objects to any such market entry restrictions, and asserts that safety is only a pretext for an effort to reduce competition among motor carriers.

All motor carriers of hazardous materials, both private and for-hire, must already comply with the federal hazardous materials transportation regulations and the more general federal motor carrier safety regulations as well as carry liability insurance or have a surety bond set as specific limits of coverage. There is no additional safety benefit to be gained from having a government agency "authorize" a carrier to operate as a hazardous material hauler prior to operation, when that carrier is going to be subject to roadside inspections and safety audits for its actual day-to-day fleet movements. Prior authorization is based on nothing more than a carrier's promise to comply with the rules; inspections and audits determine the carrier's actual compliance record.

(3) That registration, and any attached federal registration fee, preclude state and local governments from imposing additional registration requirements and/or fees on carriers operating within their jurisdictions. The state and local regulatory bodies should have access to federal data bases and receive proportionate shares of the federal funds for training of emergency responders. In order to make the registration system uniform and to ease the burden on carriers for compliance, a single federal registration must be established.

TRUCK DRIVER LICENSING AND TRAINING

In Section 12005 of the Commercial Motor Vehicle Safety Act of 1986, Pub. L. No. 99-574, the Department of Transportation is required to establish minimum testing and fitness requirements for drivers of vehicles containing hazardous materials by July 15, 1988. These requirements are to ensure that the driver has a working knowledge: the federal hazardous materials transportation safety rules; handling of hazardous materials; operation of emergency equipment; and emergency response techniques.

When they become effective, these provisions should enhance the professional knowledge of the truck driver hauling hazardous materials and allow the driver to react more appropriately in the event of an emergency. Because the driver is always the first on the scene in the event of a discharge, it is imperative that the driver have a plan of action to prevent damage to the extent possible.

EMERGENCY RESPONSE TRAINING

The greatest need in this entire regulatory area is training for emergency responders to hazardous materials spills. Like the truck driver, local volunteer firefighters, police or special response teams needs commodity-specific knowledge, there is no standardized instructional material available for training such responders.

The Office of Technology Assessment has recommended that Congress establish a comprehensive national training program for firefighters and other emergency responders. The training would cover identification if hazardous materials, the importance of self-protection, protection of the public and the environment, and the notification of the authorities. The training would be funded at $15 million to $22.5 million annually from a registration fee imposed on shippers, carriers and container manufacturers, or from a surcharge on the federal fuel tax (one-sixtieth of a cent increase in the federal fuel tax would raise $20 million annually).

PTCA supports the emergency response training program as outlined in the OTA report, and requests that such a nationally uniform system of response training be included in the reauthorization legislation.

STATEMENT OF T. STEPHEN CHESTON, SENIOR VICE PRESIDENT, GEOSTAR CORP.

Mr. Chairman, I am T. Stephen Cheston, Senior Vice President for International and Governmental Affairs of Geostar Corporation. Geostar appreciates the opportunity to submit this written statement regarding the reauthorization of the Hazardous Materials Transportation Act.

The Office of Technology Assessment report on the transportation of hazardous materials and testimony that the Subcommittee has received indicates that many improvements can be made in the transportation of hazardous materials. One of the most important improvements would be the establishment of a system whereby more timely notification is made to shippers and safety and law enforcement officials in the event of an accident. A related improvement would be to ensure that accurate information regarding the contents of a vehicle involved in an accident is easily accessible to on-scene personnel.

Geostar Corporation has developed an automatic position reporting system which will allow shippers of hazardous materials to determine the location of their cargos on a real-time basis and to monitor whether or not there has been a problem with the cargo The Geostar system will also allow local safety officials to communicate with the shippers and the home office to determine the contents and characteristics of the materials in the event of an accident.

We urge the Congress to encourage the Secretary of Transportation to carefully review how an automatic position reporting system can be used to improve the safety of hazardous materials transportation.

THE GEOSTAR TECHNOLOGY

The Geostar technology is called radio determination satellite service, or RDSS. The RDSS System is a new concept in satellite technology. The System is comprised of (1) a space segment consisting of two or more satellites (2) a ground segment made up of computers and earth stations and (3) a user segment that is small enough to be operated by battery and carried in one's hand or pocket. The user units can also be installed aboard an aircraft, land vehicle, rail car or sea vessel.

Using these three components, RDSS provides two basic services: (1) accurate position location of the user units and (2) a messaging service between user units. Thus, using RDSS, the status and location of all hazardous materials being transported can be monitored at all times and a continuous communications link can be established between the mobile units and the governmental authorities charged with their safe passage.

The Federal Communications Commission (FCC) recently allocated spectrum for the provision of RDSS. Geostar is one of four (4) applicants licensed by the FCC to provide RDSS on a commercial competitive basis in the United States and its adjacent waters. The United States government is presently undertaking an initiative within the International Telecommunications Union (ITU) to ensure the same frequencies will be allocated on a worldwide basis. Several nations around the world are either in the process of or seriously considering implementation of RDSS in their respective regions and have expressed support of the U.S. initiative in the ITU.

THE RDSS SYSTEM PRINCIPLE

The process of position determination can be initiated in three different ways in a RDSS system: from the ground station, the user units (at the user's option) or by programming the units to respond automatically in predetermined intervals.

An authorized person trying to know the position of a given mobile unit would send a request to the ground station. The ground station sends out interrogation signals to all the user units to initiate a response from the units. Each user unit has a personal identification code—or a "fingerprint"—which is part and parcel of every transmission made. Thus, the response to the interrogation signal will identify the particular user unit. Further, the response from the user unit is transmitted to two or more satellites in space which receive and relay the signal back to the ground station at slightly different times. The ground station—which knows the location of the satellites as well as the different times the signals arrive—uses these space and time references to triangulate the user's position to an accuracy of several meters. The position information with regard to that particular user is then sent to the authorized person requesting the information.

A user requiring position information can also initiate the process by transmitting a signal directly to the satellites in space; the satellites receive and relay the signal back to the ground station which calculates the position of the user unit in the same manner described above.

Finally, RDSS units can also be programmed to transmit signals to the central station at a pre-set time (for example, every hour, etc.). Alternatively, the units can also be interconnected to pressure, temperature or other gauges in the vehicle and be made to transmit a signal upon the occurrence of an abnormality.

The signal in a RDSS system can carry out a message of about 100 characters. Thus, users are able to both receive and send messages. More importantly, the RDSS system can also "broadcast" messages to a predetermined group of users—a function particularly important in the coordination of disparately situated emergency response teams.

The entire process of position determination and addressed message relay takes under one (1) second to complete.

A single RDSS system can process over 18 million transmissions per hour, which makes the tracking of all hazardous materials being transported in the United States feasible.

SPECIFIC APPLICATIONS OF THE RADIO DETERMINATION SATELLITE SERVICE

An automatic position reporting system (such as RDSS) can provide an effective solution in the coordination of emergency responses. Specifically, RDSS will:

Provide a real-time update on the exact positions of all hazardous materials being transported. Local, State and Federal authorities can monitor the locations of hazardous materials on a display screen as they pass from one jurisdiction to another.

Provide a mechanism for declaring the manifest of contents as well as the nature of the hazardous material being transported on each mobile unit in a cost-effective, administratively efficient manner. Thus, all authorities concerned will know the type of hazardous material being transported in their area of jurisdiction in real-time.

Provide a mechanism for logging the transport routes of the hazardous materials being transported in each jurisdiction. This particular application can address the concern of a growing number of jurisdictions that are imposing requirements that shippers and carriers make notification of their intent to ship hazardous materials through the jurisdiction. RDSS will minimize the creation of voluminous route records for all hazardous materials being transported and achieve the need for the retention of records via an RDSS central computer. Since prenotification of transportation routes will be done on a real-time basis and displayed on screens, RDSS will also address the concerns of shippers that these regulations are "producing huge volumes of worthless papers." (See Mr. John Currie's Statement on behalf of the American Trucking Association, April 24, 1987). RDSS will also enable State and local governments to ensure that transporters of hazardous materials are following their designated routes.

Provide a tool for approximating vehicle speed. RDS' capability to provide accurate positioning as well as direction data on a continuous basis, provides a preventive tool to law-enforcement authorities by enabling them to approximate the speed of carriers of hazardous materials.

Provide a mechanism for the positioning of emergencies whenever and wherever they occur. RDSS' capability to alert authorities upon the occurrence of emergencies provides the solution for reducing the response time to the incident. The automatic provision of position information further reduces the time that can potentially be spent in locating the emergency. However, probably the most important application in this area is the fact that an RDSS system can provide potentially life-saving data on the nature and appropriate response regarding less known hazardous materials. This application becomes all the more evident when one considers the incident regarding the Navy torpedoes which Senator Wirth recounted in his Testimony before this Subcommittee (April 22, 1987); if RDSS was available then, the City of Denver would *not* have been "tied up for nearly an entire day" determining whether the torpedoes were armed. Of course, the need for adequate training remains to be a paramount solution for responding to emergencies. However, RDSS can provide a stop-gap measure until the recommended training programs are fully implemented; and it can serve as a back-up resource, in the event adequately trained response teams deal with hazardous materials that (1) lack adequate description/information regarding the substance involved or (2) were not covered by their particular training programs.

Provide a tool for coordinating emergency response teams that are disparately located or situated. Hazardous material incident responses are not only complicated by the numerous Federal, State and local regulations, but also by the existence of various response teams with overlapping jurisdictions. RDSS can link and coordinate all the various response teams that would be involved in a given incident. In addition to integrating the response team, the capability will also reduce and synchronize the time of response of the various authorities involved.

Provide an interconnection with other sensors on a vehicle to trigger a signal alarm in the event of an emergency. An RDSS unit can be interconnected, for example, to pressure or temperature gauges in a carrier of hazardous materials; the unit would automatically emit an alarm signal if abnormalities occur. This application is particularly important if an operator is disabled or unaware of an impending emergency.

COST CONSIDERATIONS AND IMPLEMENTATION

The FCC licenses require the licensees to implement their systems no later than six years after the Licensing Order, which was released on August 7, 1986. Geostar will have a one-way RDSS system operational by the latter part of 1987, and its full two-way RDSS system operational in 1989. The other licensees have also indicated their firm commitment to implement their systems in accordance with the FCC's license requirements.

Since the RDSS systems will be implemented by private companies to meet the requirements of various classes of users, neither government or industry involved in the transportation of hazardous materials will have to pay additional costs towards system implementation. The only charges will be for the user units and service costs associated with signal transmissions. Both the user units and the service costs will be low priced.

SUMMARY AND RECOMMENDATIONS

Radio determination satellite systems have specific and unique applications for the safe transportation of hazardous materials. These systems provide a *feasible* and *cost-effective* alternative for the otherwise overwhelming task of tracking the transportation of hazardous materials. These systems will neither create additional burdens on concerned authorities nor proliferate useless data and paperwork. Authorities are instantaneously apprised upon the occurrence of an incident; they will also have access to relevant data regarding the particular incident and the appropriate method of response. RDSS systems also provide a useful mechanism for planning emergency response; they create a two-way link among the various authorities within a jurisdiction as well as a link between the authorities and the carriers and shippers of hazardous materials. The service will be provided on a nationwide basis and international implementation is also underway.

Since RDSS provides a cost-effective technological solution for the concerns raised in these hearings and in the OTA report, the service will greatly enhance the policy objectives of the Hazardous Materials Transportation Act: RDSS will "improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in commerce."

Towards this end, we recommend that Congress encourage the Secretary of Transportation and local authorities involved in regulating the transportation of hazardous materials to:

(1) Carefully consider how the application of an automatic position reporting system (such as RDSS) could improve the safety of the transportation of hazardous materials; and

(2) Create incentives for the voluntary carriage of an automatic position reporting system. For example, exemptions could be provided from certain laws and regulations—like prenotification requirements or logging of transport routes—for carrier and shippers that have RDSS units.

We believe this approach will provide numerous safety features and remain less burdensome on authorities and industry concerned with the transportation of hazardous materials. We are willing and ready to cooperate with industry and government at all levels to ensure the safe transportation of hazardous materials throughout our Nation and its waters.

NLPGA

National LP-Gas Association • 1235 Jefferson Davis Highway • Arlington, Virginia 22202 • 703-979-3563

April 21, 1987

The Honorable J. James Exon
Chairman
Subcommittee on Surface Transportation
Committee on Commerce, Science and Transportation
United States Senate
Washington, D. C. 20510

Dear Senator Exon:

The National LP-Gas Association (NLPGA) offers the following comments on the reauthorization of the Hazardous Materials Transportation Act of 1974 (HMTA) and requests that these comments be made a part of the record of the hearing to be conducted by your subcommittee on April 22 and 24, 1987.

NLPGA is the national trade association of the LP-gas industry with a membership of about 4100 including 47 affiliated state and regional LP-gas associations representing all 50 states. NLPGA represents all segments of the LP-gas (principally propane gas) industry including producers, transporters, wholesalers, retailers, and the manufacturers and distributors of associated equipment and appliances.

Propane gas is transported by all modes - truck, rail, pipeline and tanker or barge - with about 95% of the product being transported by cargo tank truck at one time or another. The Committee, therefore, should appreciate that NLPGA is deeply interested in any amendments to the HMTA since our membership includes all who are covered by the HMTA: container manufacturers, shippers, and carriers.

It is hard to believe that we have been discussing, reviewing and proposing changes to the HMTA for over five years with little substantive progress. NLPGA has been an active participant in the work of the Hazardous Materials Transportation Coalition of industry and state/local groups. NLPGA participated in the Denver Conference in September 1982 which developed many of the principles and positions that have been espoused by proponents of HMTA amendments: uniformity of regulations, coordinated enforcement efforts, and enhanced emergency response activities.

NLPGA was a signatory of the Coalition draft legislative proposals submitted to your Subcommittee in October 1983 and remains supportive of those proposals today. We believe the following principles are paramount when considering a rewrite of the HMTA:

1. **Uniformity**. There must be a uniform federal-state-local regulatory scheme for the transportation of hazardous materials. Matters pertaining to "technical" areas such as container and tank construction, vehicle placarding, package marking and labeling, shipping papers, and hazardous materials definitions should be left to the province of the federal government for regulation promulgation. Uniquely local situations which require a state or local regulatory approach such as time-of-day restrictions, bans, routing and notification are areas of concurrent jurisdiction. They should be addressed at the state and local level through the use of public-private sector task forces based on criteria specified within the HMTA and using guidance documents promulgated by the U. S. Department of Transportation (DOT) so as to ensure that they do not impact adversely on the citizens of other jurisdictions or unnecessarily burden interstate commerce.

We hasten to add that NLPGA opposes time-of-day restrictions, routing, and local notification schemes, particularly regarding local deliveries of essential and common energy fuels such as propane gas. In the early to mid-1970s, propane gas was one of many petroleum products placed under federal mandatory price and allocation controls due to perceived "shortages" of product supplies. In many instances, these "shortages" were really breakdowns in the nation's distribution system. To permit states or localities to indiscriminately ban, restrict, or route needed supplies of fuels such as propane at times of need can recreate these distribution breakdowns and again lead to fears of "shortages". A recognition of the essentiality of residential and agricultural product movements, whether in winter or during corn drying season or during tobacco curing times, and a cooperative effort between industry and state/local governments is mandatory.

2. **Enforcement**. The enforcement of tank and container construction standards should be within the sole province of the federal government. Enforcement of all other federal hazardous materials regulations should be shared by the federal government and state and local authorities; provided, that such enforcement is uniform and consistently applied.

3. **Emergency Response**. NLPGA recognizes the need for strong coordination and total involvement of all parties in emergency response. Thus, although state and local fire, police and emergency personnel are generally the first on the scene, they should act in cooperation and consultation with federal officials and industry personnel who can lend significant expertise and talent in emergency situations. Again, this is an area where industry's unique training and qualifications should be recognized and utilized.

In this regard, NLPGA has been the prime mover for nationwide adoption of "Good Samaritan" legislation designed to protect from liability those who voluntarily and in good faith offer assistance to fire and police at the scene of a hazardous material incident. Since 1978, 43 states have enacted some form of the model Good Samaritan legislation first drafted by NLPGA and now supported by a coalition of organizations under the auspices of the Hazardous Materials Advisory Council.

4. **Financing**. It is generally easy to agree on the above three principles, but more difficult to come to grips with the fourth, and most important, principle: financing. The Coalition proposal envisioned continuation of the current Highway Trust Fund, now enhanced by the Motor Carrier Safety Assistance Program (MCSAP), as the principal source of shared funding for state and local enforcement efforts. In order to assist states and localities in the development or enhancement of their emergency response capabilities, the Coalition proposed the creation of an Emergency Response Trust Fund, constructed with fees assessed on shippers and carriers of hazardous materials and the manufacturers of hazardous material containers. The "quid pro quo" for establishment of such a fund was that participating state and local governments would be precluded from levying a state or local hazardous material fee, and there would be a statutory cap on the maximum amount of the fee in order to guard against the creation of a major new funding bureaucracy.

NLPGA has supported the creation of such an Emergency Response Trust Fund based on the principle that a single, uniform fee is preferable to a multiplicity of fees assessed by each state or locality. We also recognize that by working in unison with other members of the hazardous material industry and in cooperation with state and local governments, economy and efficiency would be enhanced through a combination of training programs.

5. **Training**. A thorough assessment of current emergency response training programs, emergency response capabilities, and available industry resources is needed. For over three decades, this association and our affiliated state entities have maintained an active program of training and education for fire service personnel. The objective has been to provide the information necessary to permit these individuals to deal with any emergency situation that might arise involving propane gas.

Working with our affiliated state associations, close contact and cooperation is maintained with state departments of fire prevention and state fire marshals. Organized training programs are conducted either on-site at the local fire house or on the premises of local propane gas dealers. Similarly, we know that other industry organizations are doing likewise. The Chemical Manufacturers Association, for example, has sponsored for over a decade industry's premier emergency response coordination center, CHEMTREC, and more recently created other programs whereby their member companies may voluntarily assist states and localities in both training and actual response efforts.

CONCLUSION

Because of the available resources of thousands of local propane gas marketers and our network of affiliated state associations, our organization is perhaps unique among industry Coalition members. We are equipped to provide, and have been providing for over 30 years, the kind of hands-on propane gas emergency response training that states and localities say they need with respect to other products.

While the idea of a national Fund which would preempt a growing trend of state and local fees continues to have merit, we do not embrace it without some trepidation. The concept of sending money to Washington to have it "laundered through the bureaucracy" and returned to the state or local jurisdiction is contrary to the basic philosophy of the members of this industry who would rather do it themselves locally to be certain the job is done right. Moreover, there is genuine concern that there may be a substantial number of jurisdictions that might "opt out": choose not to participate in the Fund and then impose their own fees. This would represent a double-dip to those industry members either headquartered in or doing business in that jurisdiction.

We believe that financing will continue to be the center of the reauthorization debate in 1987 as it has been over the last five years. It is a difficult issue and deserves thorough and intense scrutiny. NLPGA plans to remain active in this debate and offers its continuing support and willingness to cooperate with the relevant jurisdictional Congressional Committees as we mutually explore all feasible options.

Respectfully submitted,

Daniel N. Myers
Vice President, Government
Relations and General Counsel

DNM:em

NLPGA

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April 29, 1987

The Honorable J. James Exon
Chairman, Subcommittee on Surface
 Transportation
Committee on Commerce, Science, and
 Transportation
United States Senate
Washington, D.C. 20510

Dear Senator Exon:

In light of testimony presented before your Subcommittee at the hearing held April 24, 1987, on the reauthorization of the Hazardous Material Transportation Act of 1974 (HMT), the National LP-Gas Association (NLPGA) would like to supplement the comments we sent you on April 21, 1987, and request that these supplementary comments also be included as part of the hearing record.

In our letter, we noted that have we been a member of the Hazardous Materials Transportation Coalition and that we support the Coalition's legislative proposals presented to your Subcommittee in October 1983. One of the elements of that legislative proposal is the establishment of a registration and fee program serving the dual purpose of determining "what's out there" in the form of an emergency response needs assessment for state and local officials, and the collection of a fee which would go into an Emergency Response Trust Fund which funds would be used to finance the training of state and local personnel in the proper emergency response techniques.

In his testimony presented on April 24, Mr. Clifford J. Harvison, President of National Tank Truck Carriers, Inc., testified at some length on this registration proposal and outlined a feasible and practical approach. In short, Mr. Harvison's suggestion was that DOT begin a mandatory registration program composed of three elements: first, cargo tank operators transporting any hazardous material in vehicles having a capacity of 3500 water gallons or more, and the shippers thereof; second, any carrier (in bulk or otherwise) transporting products determined by DOT to have properties classified as "toxic by inhalation", and the shippers thereof; and, third, carriers and shippers of "route-controlled quantities of radioactive material". The NLPGA supports Mr. Harvison's proposal except that we believe the first part of this program should embrace only those vehicles having a capacity in excess of 3500 water gallons, rather than including those vehicles having a capacity of 3500 water gallons. Mr. Harvison's proposal is workable, feasible, and, most importantly, recognizes that there are very large quantities of common fuels being delivered to gasoline stations, homeowners, businesses and industry, which if included under this program, would, in Mr. Harvison's words, "create a self-consuming swamp of paper".

NLPGA believes it is important to recognize the substantial difference between the type of registration program outlined by Mr. Harvison and the "Federal Registration Program" outlined by Mr. John V. Currie, Director of Safety of the American Trucking Associations. In Mr. Currie's testimony, he stated: "DOT should be required to establish a registration program for all carriers as a precondition for transporting hazardous materials in commerce." NLPGA strongly opposes any registration program as a precondition to doing business. In enacting the Motor Carrier Act of 1980, Congress deregulated the trucking industry. What ATA is proposing is to turn the clock back seven years and re-regulate the trucking industry. Moreover, ATA would go beyond the original ICC licensing program and encompass all carriers, be they private, contract, or common.

NLPGA does not believe that such Draconian tactics are necessary merely to make a needs assessment and to develop a financing mechanism to help train state and local emergency responders. The type of registration program that ATA is advocating is a license to do business, not a registration and funding program. This was rejected years ago by the Hazardous Materials Transportation Coalition, was not recommended by the Hazardous Materials Transportation Coalition today and is not supported by either the Coalition or this member of the Coalition.

We again thank you for this opportunity to present our views on these very important issues and look forward to working with you and your staff in the development of substantive legislative proposals to amend the Hazardous Materials Transportation Act of 1974.

Respectfully submitted,

Daniel N. Myers
Vice President, Government
Relations & General Counsel

Washington State Senate

Energy and Utilities Committee

415 John A. Cherberg Building • Olympia, Washington 98504 OW-41 • (206) 786-7455

Senator Al Williams,
Chairman
Senator Brad Owen
Vice Chairman
Senator Max Benitz
Senator Emilio Cantu
Senator Gary Nelson
Senator Bill Smitherman
Senator Lois Stratton

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May 21, 1987

Senator J. James Exon, Chairman
Surface Transportation Subcommittee
Senate Commerce Committee
Washington, D.C. 20510

Dear Senator Exon and Members of the Subcommittee:

I appreciate the opportunity to submit written testimony on the important matter of the transportation of radioactive material. For the last four years I have chaired the Energy and Utilities Committee of the Washington State Senate. Although I share your committee's concern for safe transportation of all hazardous material, because my committee, in numerous hearings, has focussed on the transportation of radioactive material my comments will be limited to concerns about the transportation of radioactive materials.

Washington State, and its neighboring Northwest states, have a major stake in the safe transportation of radioactive materials. Ongoing nuclear research, manufacturing, and waste disposal activities at the Hanford Reservation in Eastern Washington and at the Idaho National Energy Laboratory accounted for over 1200 major shipments of radioactive material in and through Washington State last year.

The Hanford Reservation, already the storage facility for half the nation's radioactive defense waste and the location of both federal and private low-level radioactive waste disposal sites, is also one of three sites under consideration for the nation's high-level radioactive waste repository. Using current technology to ship high-level waste to the repository, the Department of Energy estimates that about 7800 truckloads a year would arrive at a Hanford nuclear waste dump -- most travelling I-90 through downtown Spokane.

Accidents: Prevention and Response

Although only a few transportation accidents involving radioactive material have resulted in a radioactive release, a serious transportation accident could be potentially devastating. Whether public health and the environment would suffer depends on the severity of the accident and where it occurred, the type of materials involved, weather conditions, and the action of the first responder to the accident.

Obviously, state and federal government cannot do much about those variables. Because accidents will happen, the best we can do is take preventive measures and be prepared to respond to those that occur.

The Current Law

As the law stands, prevention is the domain of the federal government; response is the domain of the states. The Hazardous Materials Transportation Act and regulations of the Department of Transportation, Department of Energy and the Nuclear Regulatory Commission establish rules for packaging and shipping radioactive materials. Inspection authority is shared between the federal agencies and the states. Emergency response is left solely to the states.

Uniform federal standards for packaging and shipping aid the flow of commerce and enhance public safety. However, vehicle inspection necessary for prevention and data collection necessary for response vary from state to state and may at times impede the flow of commerce. The major problem in the existing regulatory scheme is the lack of adequate funding for emergency planning and response.

In the Northwest, we have found that emergency response capabilities of local and state governments differ both between states and within the same state. Although the State Patrol and some local governments have been trained to recognize and handle radioactive materials incidents on the highways, many likely first responders are not prepared.
About a year ago, an official of the state's emergency management office spoke to over 200 volunteer firemen in Eastern Washington, likely first responders in the area of the state most travelled by vehicles transporting radioactive materials. He asked how many knew where training was available for hazardous materials response, how many were aware of training offered by the Federal Emergency Management Administration and how many could take the time, even with expenses paid, to go to Maryland for the FEMA training. For each question only a few hands went up.

In many border areas, no means exist for a coordinated response to a transportation accident involving hazardous or radioactive materials, a cause for concern recently when a train carrying both types of material derailed in Washington near the Oregon-Washington border. The state's Office of Radiation Protection, with the scientific knowledge and equipment to respond to unplanned radioactive releases, was not notified of the accident until after its Oregon counterpart and almost two hours after the accident occurred. Fortunately, only a small amount of radioactive material was involved and no contamination occurred.

Some states fill the gaps in the federal scheme with their own regulations, including permit fees to fund and provide the information necessary for effective emergency response. Unfortunately, permit fee systems have been challenged as preemptive by federal regulators and the transport industry. Interstate cooperation in requiring permits, setting fees and inspecting vehicles could prevent a patchwork of state regulations that may otherwise threaten the uniformity promised by the HMTA.

The Northwest Solution

In the Northwest, Washington, Oregon and Idaho have established an interstate agreement forming a committee on transportation of radioactive material. To avoid conflict with the HMTA, the agreement does not establish rules and procedures that party states must follow, but creates a framework for cooperation and coordination. The committee is directed to develop model regulatory standards for each state legislature to act upon and to coordinate decisions by party states relating to routing and inspection of shipments. The committee is also directed to develop a means to coordinate emergency response regionally and to discuss regional cooperation and coordination for the transportation of hazardous waste and other hazardous materials. To allow for future expansion of regional cooperation, the agreement allows the seven other states west of the Rocky Mountains to join in the endeavor.

The Need for Legislation

It is time for Congress to reconsider the division of authority between the states and the federal government for safe transportation of hazardous material. If states are to remain responsible for emergency response, Congress must either provide the funding or clarify state authority to raise money and require permits for implementing emergency planning and response. In addition, Congress could facilitate emergency response efforts by giving states increased control over the routing of radioactive material.

Congress might also want to examine methods for regions to develop uniform responses to hazardous material transportation concerns. Interstate compacts or interstate agreements that coordinate routing and inspections and establish permit fee systems may be worthy of consideration. By encouraging a regional approach, Congress could eliminate the complications that can arise when each state attempts to raise funds and fill the regulatory gaps on its own.

Conclusion

Thank you for the opportunity to present my perspective on this important issue, one which I believe will grow in importance as the time approaches for shipping spent fuel to a high-level repository.

Sincerely,

Al Williams

Al Williams
Chairman

National Governors' Association

Bill Clinton
Governor of Arkansas
Chairman

Raymond C. Scheppach
Executive Director

May 29, 1987

The Honorable J. James Exon
Chairman
Subcommittee on Surface Transportation
Committee on Commerce, Science
and Transportation
United States Senate
330 Hart Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Let me express my appreciation for the opportunity to submit the attached policy of the National Governors' Association and this statement for the record. I applaud your efforts, through this set of hearings, to inquire into an issue of utmost concern to the nation's Governors -- the transportation of hazardous materials.

Since enactment in 1974 of the Hazardous Materials Transportation Act, states have enhanced their regulatory and enforcement efforts and have increased their technical expertise with respect to inspection, enforcement, and emergency response programs. These improvements are due in part to states taking innovative approaches to financing these programs through the practice of combining permits with other user fees.

The last few years have also seen a number of improvements in the overall relationship between the trucking industry and state governments. The project undertaken by the NGA Working Group on State Motor Carrier Procedures to create uniformity among the states regarding registration and taxation procedures has made enormous achievements in fostering cooperation among industry representatives and state officials, and in forming important mechanisms for consultation. Through the establishment of state motor carrier advisory committees, as recommended by NGA policy, states and the industry are able to address a variety of mutual concerns regarding regulation, taxation, and safety. We see the potential for these advisory committees to pave the way for cooperative and productive discussions on other pressing issues that may include hazardous materials transportation.

We recognize that there are differing viewpoints on this complex set of issues. There are those who would call for federal preemption of certain state responsibilities and for limiting the imposition of some user fees by

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Page Two

the states. NGA continues to oppose federal preemption in the absence of a clear public interest benefit and adequate consultation with the states. We would also note that the user fees imposed by states are usually deposited into dedicated funds to finance vital safety inspection programs and other enforcement activities of state highway patrols, as well as highway improvements that enhance safety.

The questions of what are the appropriate federal and state roles and of how governments and industry can cooperate effectively require further study. At NGA, the committee I chair has identified these questions as a top research priority. Last week, the NGA Executive Committee met and approved a research proposal on the state role in regulation and regulatory enforcement of hazardous materials transportation. We plan to seek the resources necessary to conduct the proposed research and analysis. Other research efforts are underway, including the Congressional Office of Technology Assessment's safety project. It is our hope that these studies will lead to a better understanding of the issues themselves as well as a clarification of our roles in seeking effective solutions to the problems we face.

If you have further questions regarding NGA's policy and activities, I encourage you to contact Charilyn Cowan, Committee Staff Director at NGA. She can be reached at (202) 624-7814. I look forward to further opportunities for cooperation in this area.

Sincerely,

Governor William A. O'Neill
Chairman
Committee on Transportation,
Commerce and Communications

Attachment

National Governors' Association

Bill Clinton
Governor of Arkansas
Chairman

Raymond C. Scheppach
Executive Director

F. 12

TRANSPORTATION OF HAZARDOUS MATERIALS

The safe transport of hazardous materials is an issue of grave concern to all Governors. The nation's Governors recognize the risks that hazardous materials can pose and yet remain convinced of their important contributions to our nation's economy and its continued high standard of living. We support a comprehensive and equitable regulatory approach to hazardous materials transportation that balances our commitment to public safety with our continued support for economic growth and productivity.

Sound policies for the safe handling of hazardous materials demand coordinated and cooperative efforts, both within government and between government and private industry. Strengthened state and local governmental participation in the formulation of hazardous materials transportation policy is vital. The success of these policies depends also upon support and assistance from the federal government.

The nation's Governors call for the development of a comprehensive national hazardous materials transportation policy. This policy should address the following concerns: the establishment of necessary support programs; the allocation of responsibilities and resources among levels of government; the design of appropriate mechanisms of coordination between and among levels of government; and the need for federal funding to develop and foster compliance programs in appropriate state and local government agencies.

The National Governors' Association supports development of a joint hazardous materials transportation management program based upon:

- Simplified federal administrative regulations. The scope and complexity of regulations governing packaging, container specifications, handling, labeling, and placarding of hazardous materials transportation diminish their effectiveness. They should be reviewed for potential streamlining and simplification;

- Implementation and effective utilization of the National Driver Register. Financial support for developing and carrying out the National Driver Register (NDR) should be provided and consideration should be given to exploring the specific identification in the NDR of drivers engaged in the transport of hazardous materials by highway;

- Strengthened state hazardous materials enforcement programs, including developmental support. Programs within the U.S. Department of Transportation support state efforts to improve hazardous materials enforcement and response activities. They should be improved and expanded;

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- Examination of the use of carrier profile systems. Some states have adopted profile systems that log every violation by a motor carrier of general safety and hazardous materials laws and regulations. Study of these systems should be undertaken to assess their effectiveness in improving compliance and to explore their potential replication in other states and throughout the nation;

- The need for improved and expanded training programs for enforcement personnel. While many states have ongoing programs, additional resource and technical support would enable a substantial improvement in the response capability of personnel to hazardous materials transportation incidents. Additional training opportunities programs for state and local officials should be supported by the federal government;

- Clarified state and local government roles in the management and enforcement of transportation activities. The Hazardous Materials Transportation Act of 1974 should be amended to recognize the effectiveness of state and local agencies to carry out regulatory and enforcement programs with federal assistance;

- Improved procedures for conflict resolution in regulatory responsibilities. Early identification, review, and resolution of conflicts in carrying out regulatory responsibilities could be facilitated by the institution of procedures at the state and local levels;

- Assignment of primary responsibilities for emergency response. States must assume the lead role in developing effective state and local government response plans and capabilities. A prime federal role is providing technical information, expertise, and supplemental financial support to assist in developing and maintaining an effective response capability;

- Exclusive federal responsibility for regulating the security of containers. Containers should be designed and constructed to resist leakage and spillage, commensurate with the degree of hazard involved, in the event of an incident. The federal government should have the sole responsibility for regulating and approving packaging for transport;

- Development of an assured, stable source of revenue to finance program activities. Examination of options could include a user-financed fund to cover the costs of administration, training, enforcement, and emergency response. The establishment of such a fund should not be construed to absolve any responsible party from liability for clean-up costs.

Adopted August 1983.

CWTC

Chemical Waste
Transportation
Council

May 12, 1987

Honorable J. James Exon
Chairman
Subcommittee on Surface Transportation
Senate Commerce, Science and Transportation Committee
428 Hart Senate Office Building
Washington, DC 20510

Dear Chairman:

On behalf of the Chemical Waste Transportation Council (CWTC), I am pleased to offer comments for the record as your Subcommittee reviews the Hazardous Materials Transportation Act.

The CWTC is a component of the National Solid Wastes Management Association. The Council was formed to serve as a forum for issues specific to the transport of hazardous waste. Members of the Council are those commercial firms that have responsibility for transport of hazardous waste, by truck and rail, from its point of generation to its management destination. It is the only organization of its kind that represents companies engaged solely in hazardous waste transportation.

The Council stands for safe transport of hazardous wastes and has developed a recommended set of standards. Each member company strives to implement these standards in its own activities. The Council believes that safety should receive paramount attention when considering new legislation for hazardous materials transport.

There are other issues related to HMTA that the Council would bring to the attention of the Subcommittee. These include routing registrations, reporting requirements, prenotification and first responder training. Our concerns are summarized in the following pages.

Routing Issues

The Council strongly believes that all public roads should be open to hazardous materials/waste transportation. Any routing restrictions must be justified with evidence of real potential harm to the environment and public.

The Council would suggest that if routing restrictions are undertaken, they should be based on relevant, objective Federal criteria. States and localities should be compelled to use this criteria when routing is attempted.

NSWMA

A Council
of the National
Solid Wastes
Management Association

Such Federal criteria should limit routing to placarded vehicles; provide for enforcement; provide for posting and maps of routes and alternatives available; provide due process protections; provide for free direct access to commerce; provide for breaks in on-road movement for food, fuel, driver duty status, periodic vehicle inspections, etc. In addition one should consider physical limitations (e.g., bridge weight limit/tunnel clearance), public safety risk calculations (e.g., accident probability and accident consequence), special populations factors (e.g., heavily populated areas, hospitals, schools, nursing homes, other areas difficult to evacuate), special properties (e.g., reservoirs), and accessibility of emergency response equipment and personnel in the event of an incident. This latter point is not a reference to whether a jurisdiction has the equipment and manpower to deal with emergency response, but rather whether there is the physical ability for equipment to reach the scene of an incident. Routing should not be an excuse for localities to shirk from their responsibility to provide necessary emergency response capability.

Training

There are two issues related to training. One relates to driver knowledge about the vehicle and materials transported; the other relates to training of first responders. For the former, the CWTC believes that DOT should identify in regulation on training requirements for operating hazardous material transport vehicles. These requirements could be administered by State Agencies and should include written and on-road tests. Indeed, the Commercial Motor Vehicle Safety Act of 1986 specifically covers drivers and vehicles engaged in the transportation of "hazardous materials." The statute provides that the Federal Highway Administration (FHA) must develop minimum Federal standards for testing drivers (written and operational) by July 15, 1988. The important point is how this mandate will be implemented by FHA, and I suggest that there is positive value in having some liaison between your subcommittee, Mr. Chairman, and the FHA on this development.

Training of "first responders", including financing of this training, should not be a responsibility of the private sector; it is a public duty. Training afforded first responders will not be limited to hazardous material releases in transportation but are skills that will conceivably be used in a variety of fixed-site locations. The Council opposes the imposition of additional fees on hazardous materials transporters to support this training. States already collect numerous fees, fines and other monies from transporters. These monies could be dedicated to first responder training.

This is not to say that CWTC is opposed to first responder training. In fact, many members volunteer time and resources to do such training as a community service. A recent CWTC survey of members indicates widespread involvement. The Council believes, however, that first responder training costs should not be born solely by our industry.

Registration

The purpose of registration should be clearly articulated prior to implementation. Is it an attempt to limit access of "bad actors"? Or, is it merely a means to develop a census of transporters? The Council does not believe the registration process is an adequate screen of "bad actors" and should not be a substitute for enforcement.

Federal registration should preempt state or local registration. Fees collected with regard to registration should be limited to covering the costs of the program and not to finance other activities or to serve as a barrier to market entry. The only criteria for registration should be proof of insurance and a current safety fitness rating.

Reporting Requirements

One-time, centralized reporting is a necessity to obtain accurate data and assure elimination of duel counting of events. Reporting should be modeled after the National Response Center program with access to a toll free number to which reports can be immediately delivered with written follow-up. The reports should be limited to name of company, material spilled, amount of the spill, where it occurred, and what the company is doing to correct the situation. The written report can be expanded to provide dollar damage, injuries and deaths.

Prenotification

The Council is opposed to prenotification. Prenotification is not a method that can predict accidents or releases with any degree of accuracy commensurate with the burden that compliance would entail. Efforts to reduce risks before they happen should focus on packaging and containment requirements, and driver quality. Both DOT and Congressional Office of Technology Assessment have reviewed prenotification issues and concluded that such requirements serve no useful purpose.

A final issue that I would like to raise for the Subcommittee concerns discrimination between requirements for hazardous material and hazardous wastes transport. Through DOT and EPA regulations hazardous waste transport activities are highly regulated even more so than hazardous materials. Yet data indicates that hazardous waste poses less threat to environment and public health than hazardous materials. Incidents data reveal that waste transport accidents represent only 0.1% of all reported hazardous materials incidents.

In spite of this evidence states often target legislation and regulations on only waste transport, exempting hazardous materials transport. Nevada, Delaware and Minnesota are recent examples. There needs to be provisions in federal legislation that ensure equal application of state regulations to hazardous materials and hazardous wastes.

I appreciate the opportunity to offer comments for Subcommittee consideration. If members or staff have questions, I and CWTC members will be pleased to discuss them further.

Sincerely,

Suellen Pirages

Suellen Pirages, Ph.D.
Director

STATEMENT OF CLIFFORD HARVISON, PRESIDENT, NATIONAL TANK TRUCK CARRIERS, INC.

Mr. Chairman and members of the Committee, my name is Clifford Harvison and I am President of National Tank Truck Carriers (NTTC), Inc., the trade association of the tank truck industry.

Since our members are engaged, extensively, in the highway transportation of hazardous materials, hazardous substances and hazardous wastes, in bulk, our collective interest in the provisions of the Hazardous Materials Transportation Act of 1974 is substantial.

Let me note, also, that NTTC is a member of the "Hazardous Materials Coalition", a group of trade association representatives from both industry and State and local governments. The "Coalition" has submitted draft legislative amendments to your staff. We support enactment of those proposals which I will outline in this testimony.

The Act delegates considerable regulatory authority to the Secretary of Transportation in terms of hazard classification and identification, operational rules, and in the construction of all types of containers for the transportation of hazardous materials (including cargo tanks).

Frankly, we believe that the law, and its implementation by DOT, have served the public well. By any standard of measurement, product-release incidents are rare.

Briefly stated, the statute "has done its job".

While the HMTA is, in effect, a mandate to create standards; more recent action by the Congress has served to enhance the enforcement capabilities of both State and Federal agencies dealing with transporters of hazardous materials.

The 1982 Surface Transportation Assistance Act gave birth to the Motor Carrier Safety Assistance Program (MCSAP). The result is an accelerated training program for State enforcement personnel. Most States have already trained special cadres of (generally) State Police into units dedicated to haz mat enforcement.

Admittedly, there have been some "start up problems"--in terms of errors in regulatory interpretations, over zealous enforcement, etc.--but my membership remains convinced that these are transitory in nature. You have our complete support for this Congressional initiative.

Additionally, and with respect to the transportation of hazardous wastes and hazardous substances, the Congress has mandated cooperation between the Secretary, DOT and the Environmental Protection Agency (EPA) to meld regulatory schemes and objectives. There are "hassles" and "turf fights", but, by and large, the system works.

Today, we suggest that the prime objective in this reauthorization process should be to update the law (in the light of contemporary developments) without doing violence to the basic regulatory process codified in the HMTA.

Specifically, we hope that the Committee will act to define, more sharply, the respective roles of Federal and non-Federal jurisdictions in regulating the highway transportation of hazardous materials.

Generally, there are four areas within which statutory modification is both necessary and justified: (1) Technical Regulations; (2) Registration of Shippers and Carriers; (3) Routing and Time of Day Restrictions; and, (4) Permits and Fees.

Permit me to detail NTTC's concerns, but within the following context: the public is justifiably concerned over both the immediate and long-term effects of hazardous materials incidents, and they want better control over "what is moving where". The "NIMBY Syndrome" (not in my backyard) is a strong motivator for local action. At the same time, safety is compromised when risk is simply transferred from one jurisdiction to another. Likewise, motor carriers cannot maintain compliance when the "rules of the game" change just because a vehicle crosses an imaginary jurisdictional boundary.

TECHNICAL REGULATIONS

Currently, the DOT has promulgated very specific regulations ranging from the determination that a particular commodity is hazardous in transportation through rules on how the truck is to be operated during that transportation. Included in this regulatory scheme are such functions as: marking and labeling; packaging; the manufacturing, testing, inspection and repair of specification packaging; loading and unloading, driver training and qualification etc. Any non-Federal regulations which prompt deviation from the Federal rules destroy the goal of national uniformity which Congress established in 1974.

From the standpoint of the carrier, we cannot train and qualify drivers according to a myriad of differing local requirements. We cannot alter the construction, testing and inspection of tank vehicles when a truck crosses a boundary.

While few local jurisdictions have imposed differing (from Federal) technical regulations, the problem does exist. Both NTTC and the "Hazardous Materials Coalition" agree that: (1) promulgation of these so-called "technical regulations" should be the exclusive jurisdiction of the Federal DOT; (2) States should be encouraged to adopt the Federal rules for the purposes of regulating intrastate transportation; and, (3) the HMTA should be amended to so specify.

REGISTRATION OF SHIPPERS AND CARRIERS

Oftentimes the "Washington solution" for a real (or perceived) regulatory void is Federal registration of the companies involved in the regulated activity. In the case of the transportation of hazardous materials, this "solution" should be approached with selectivity and moderation.

Personally and professionally, I believe that a registration program will enhance DOT's program. In order to manage an effective regulatory program, you have to know "who the players are..." On the other hand, registration of every truck operator who might handle any quantity of hazardous materials would create a self-consuming swamp of paper.

I would suggest that DOT be compelled to begin a mandatory registration program composed (initially) of three elements.

First, the program should include any cargo tank operator transporting any hazardous material (including middle distillate petroleum products, interstate or intrastate) in vehicles having a capacity of 3,500 water gallons or more, and shippers in such quantities. Adoption of these parameters would eliminate home delivery units of fuels and most vehicles engaged in the distribution of agriculture-related products delivered in bulk.

Next, the program should include any carrier (in bulk or otherwise) transporting products determined by DOT to have properties classified as "toxic by inhalation", and shippers thereof. This element of the program might be enhanced by including commodities identified by EPA as being environmentally sensitive.

Third, carriers and shippers of so-called "route controlled quantities of radioactive material" should be enrolled in the registration program.

Mr. Chairman, some months ago, Congress' Office of Technology Assessment called for a mandatory DOT registration program. I'm confident that you will find that the program outlined, above, dovetails with the OTA objectives noted at pp. 23 and 24 of their July, 1986 report to this Committee.

ROUTING AND TIME OF DAY RESTRICTIONS

Of all of the elements of controversy regarding haz mat transportation, none is more contentious than routing and time of day restrictions (including bans, curfews, etc.), for reasons upon which I need not elaborate.

Unlike the so-called "technical regulations" I noted, above, the Federal role in routing decisions should be specified--but minimal. The HMTA should be amended to specify that: (1) the DOT should publish guidelines to which routing schemes must adhere; (2) no jurisdiction can act without consultation with both industry and other affected jurisdictions (to avoid simple exportation of risk); (3) States shall be charged with resolving disputes between jurisdictions within that State; and (4) DOT shall be charged with resolving disputes between States (or in such other situations where the political process fails to resolve a dispute).

Mr. Chairman a truck is a unit of economic productivity. Neither the travelling public nor the owner of the vehicle is pleased when the unit is stuck in rush hour or rerouted onto some secondary circuitous roadway. However, practical realities of commerce often impose less-than-desirable circumstances. Trucks are delayed by weather, traffic and detours. Plant sites and gasoline stations won't accept deliveries after certain hours.

My industry can "live" with rational, coordinated routing and time-of-day restrictions that are posted well in advance of entering the jurisdiction. We cannot, however, "live" with outright bans, ill-conceived curfews or routing which either puts the vehicles on secondary roadways or causes such circuity as to needlessly increase vehicle exposure to accidents.

Again, the draft submitted by the Hazardous Materials Coalition contains suggested language which, if enacted, would establish a balanced approach to routing and other restrictions. It calls for "concurrent jurisdiction" and compels a Federal role only in the event of irreconcilable routing disputes while leaving the prime opportunity for decision making to the States and their local jurisdictions.

FEES AND PERMITS

Even in normal "short haul" petroleum distribution operations, tank vehicles operate in 6-8 jurisdictions, per day. Long haul chemical operations usually involve the same truck crossing the boundaries of scores of local communities during a single trip.

Just as Washington perceives a registration program to be the solution to perceived regulatory shortcomings--and (as noted, above) NTTC supports such a Federal system--we do ask that the HMTA be amended to prohibit non-Federal permitting and fee structures imposed on vehicles, laden with hazardous materials, and which are engaged in interstate commerce.

Let me underscore that we are NOT attempting to inhibit the rights of non-Federal jurisdictions to "tax trucks" or to impose permitting schemes which constitute a license to do business in a particular community.

For instance, a local trucking company may be involved in household trash pick-up and be required to be "permitted" for that business. We have no objection to a permit of that type.

However, there is a disturbing and accelerating trend at both the State and local levels to require permits and (either) per truck or per company fees (even "per load" fees). They are imposed on through trucks or vehicles simply engaged in pick-ups and deliveries. Often, these permit/fee systems apply to a vehicle just because it is laden with hazardous materials.

This is an alarming trend. Such systems have been the objective of legislation introduced (or enacted) in Colorado, Arkansas, Maryland, California, New Hampshire, Ohio and several other States. They promise chaos in the orderly distribution of materials. Indeed, many cities have imposed similar schemes.

The proliferation of such permit/fee arrangements compound the carriers' liability posture, create enormous administrative burdens (what truck is "permitted" in what jurisdiction?) and are financially debilitating.

These permit/fee structures also compromise safety. Obviously, trucks will avoid certain jurisdictions that impose permit/fee systems. This will mean the use of secondary highways and circuitous routing. As this Committee is well aware, prior to passage of the Surface Transportation Assistance Act, millions of "wasted" miles were run by trucks avoiding three States whose size and weight limitations were below Federal standards.

This regretable scenario will be repeated as non-Federal permitting and fee systems proliferate.

SUPPORT OF THE "COALITION" POSITION

Mr. Chairman, I have referred to the Hazardous Materials Coalition, and the draft HMTA amendments which have been presented to the Committee staff. It is the product of over four years of negotiation between representatives of industry and government.

That draft deals with all of the elements that I have addressed in this testimony, and includes a reasonable national fee structure to be imposed upon shippers, carriers and container manufacturers involved in the transportation of hazardous materials. The proceeds of that fee structure would go to State and local governments for the enhancement of the emergency response capabilities.

NTTC remains in support of that concept.

Frankly, the fee structure is a "trade-off" for a more determinative Federal role in such areas as "technical regulations", routing (and other restrictions) and local fees and permits. At the same time, it represents a balanced rational approach to an area of intense public concern.

Mr. Chairman, I want to thank you and this Committee for the opportunity to testify, and I will attempt to respond to any questions.

Respectfully submitted,

Clifford J. Harvison
President
National Tank Truck Carriers, Inc.

Brotherhood of Locomotive Engineers

Position Paper Concerning

The Transportation of Hazardous Materials on the Railroads

The Brotherhood of Locomotive Engineers, an unincorporated association, is a railway labor organization which represents in collective bargaining the craft of locomotive engineer employed by the major railroads operating within the United States, and is a "representative" of employees within the meaning of the Railway Labor Act (RLA), 45 U.S.C. 151.

Locomotive Engineers have been involved in numerous railroad accidents where the exposure of hazardous materials has created a threat to not only their lives, but to the well-being of fellow workers and civilian populations. Upon review of voluminous files on the topic, the Brotherhood of Locomotive Engineers makes the following proposals and desires that these be presented for consideration before our national lawmakers so that a uniform set of standards can be established governing the railroad industry in the United States.

COMPREHENSIVE WORK AND TRAINING STANDARDS

The July, 1986 Miamisburg, Ohio accident which caused the largest-ever emergency evacuation linked with a railroad accident, clearly demonstrates the need to establish comprehensive work and training standards for railroad employees. Today's locomotive engineers, as well as all other train-operating employees, are no better trained than the average American in dealing with toxic chemical spills.

The report on Transportation of Hazardous Materials, prepared by the U. S. Congress - Office of Technology Assessment, points out some of the shortcomings in the current system. "More often than not," the report states, "it is people problems — inadequately-trained personnel, poor coordination and communication — or lack of information and advance planning, rather than technological shortcomings, that cause accidents, injuries or environmental damage." The report concludes that fewer than 25% of all emergency response personnel are adequately trained to deal with accidents involving toxic chemicals.

It is the Brotherhood's position that it would be very beneficial for our civilian population, the train-traveling public and railroad employees if all locomotive engineers were provided training regarding emergency situations such as an imminent collision at a road crossing. Should an engineer:

1) Shut or open the cab windows?
2) Jump from the train before impact?
3) Put the brakes in emergency application?
4) Open the throttle?
5) Try to clear the wreckage before stopping?

This is particularly bothersome when a collision involves a gasoline tanker. Stopping a freight train could very well spot a car of hazardous materials, dangerous chemicals, explosives, propane gas, etc., in situations which would only contribute to the problem. A train with its air brake system in emergency application is going to require critical minutes to release the brakes and move. On the other side of the token, a train attempting to clear a collision point may very well drag a fire bomb into a populated community, school or factory area.

Locomotive engineers perform one of the most responsible jobs in our society and the importance of their training and education cannot be stressed enough.

RELATIONSHIP OF LOADS

The Miamisburg accident could have been multiplied to an exponential degree had luck not been with this small metropolis and the car alignment of the involved train been such that a car of propane was coupled to one end of the burning car with a load of cyanide or chlorine next. The Brotherhood of Locomotive Engineers calls for an immediate study of the relationship of loads placed in trains. Should a carload of high explosives be positioned next to propane or caustic acid, or should dangerous materials be separated by idlers or other railcars, that would not be an immediate threat?

TRAIN PROFILES

According to the Federal Railroad Administration, nearly 100 railroad-related hazardous spills have occurred in this country since 1984. Independent review of three catastrophic accidents in the San Antonio, Texas area within the last year reveals a highly-suspect pattern in train profiles and shifted loads or damaged cars that probably caused the derailments in these accidents:

- September 14, 1985 Southern Pacific Railroad acid spill in the Medina River, Texas.

- February 28, 1985 Southern Pacific Railroad derailment of one-quarter mile of cars near Kelly Air Force Base, Texas.

- June 8, 1986 Union Pacific Railroad fire and hazardous material spill in Salado Creek, Texas.

The tonnage profiles of the trains involved in the aforementioned incidents show heavy blocks of cars placed near the rear. Some of today's trains extend over two miles in length and have three or more car lengths of slack and are a real challenge to handle. Heavy blocks of cars will "run in and out" within a train as it traverses varying grades and this slack action may not be felt on either end. However, a heavy group of cars increasing and decreasing its speed within a moving train that maintains a steady speed on the head end, exerts ramming and jerking forces on the immediate preceding and trailing cars which could very well shift loads or damage cars and cause a derailment. This Train Profile topic should be given immediate attention and perhaps there should be a national directive issued concerning weight distribution in long trains.

CAR LOADING SPECIFICATIONS

In the September 14, 1985 Southern Pacific Railroad accident in which acid was spilled in the Medina River, the cause of the accident was attributed to a shifted load. As a matter of fact, the car in question, Southern Pacific bulkhead flat SP 508 005, was loaded with bridge timbers at Eugene, Oregon and shipped August 5, 1985. The car was set out at Strauss, New Mexico for rearrangement of the load and was placed back in a train on September 13, 1985. In commenting on this particular car, Mr. John Riley, Administrator - Federal Railroad Administration, states, "The flatcar was loaded in accordance with the Association of American Railroad's Standards and Specifications for Unit Loading."

The BLE suggests that certain commodities such as telephone poles, bridge timber and steel pipe should not be loaded on open flatcars with or without bulkheads. There have been too many railroad accidents attributed to shifted loads of this nature. Also, there should be developed a federal mandate for loading, not a private-industry specification.

Railroad cars that carry liquids should have appropriate baffels inserted in order to hold the sloshing of fluids at a minimum. The continuous back and forth motion of a liquid will cause a car to move, and has caused trains to lurch far enough to put one end over a derail or to pass a stop signal.

IMPROVED IDENTIFICATION METHODS FOR HAZARDOUS MATERIAL RAILCARS

In the strewn wreckage of many railroad accidents, car numbers and placard information are often not visible and the Brotherhood of Locomotive Engineers recommends that there be developed a national (and hopefully international) standard color coding of railcars that haul only one particular hazardous commodity.

For example, cars that transport chlorine gas could be solid green; propane cars could be half white and half black, end for end; and cars hauling cyanide could be half red and half white, top and bottom. These colors could include reflection material which would readily reveal the color when a light is directed on it at night. With this type of code, a majority of this country's hazardous material cars would be recognized instantly. This suggestion is made not in lieu of but in addition to other marking requirements.

The pharmaceutical industry color codifies capsules and pills in a similar fashion. If one does not readily associate the content with the color, it is easily detected in a medical code book.

TRAIN MANIFEST

Along with tonnage profiles, every railroad should be required to furnish both the engineer and conductor with a list of cars and their contents as they are positioned in a train, especially those containing hazardous materials. This information should be provided to through-freight, local and yard crews. Local and yard crews are most frequently not provided information about the equipment they are handling and this is ironic as these employees come in physical contact with the cars as they switch, spot, couple and set brakes. Knowing the contents of the cars will improve their safety consciousness when handling such equipment.

PROTECTIVE CLOTHING, GAS MASKS, SENSORS

In situations where train crew members are required to inspect cars hauling hazardous materials because of suspected leakage or other problems, employees should have available, and be required to use, protective clothing and gas masks. Such equipment must be adequate to protect an individual from exposure to the fumes or emissions from any substance being hauled on the train.

Sensor mechanisms which would readily indicate danger because of vapors, radioactivity, or any other possible hazard associated with hazardous cargo on board a train, should also be required as standard equipment. There must be procedures established to specify how railroad employees and carrier officials are to notify proper authorities in case there is detection of a possible threat to people and/or the environment because of the discharge or spill of hazardous materials.

hmac

Hazardous Materials Advisory Council

Suite 907, 1012 Fourteenth Street, N.W., Washington, D.C. 20005, (202) 783-7460

June 22, 1987

Senator Ernest F. Hollings
Chairman
Committee on Commerce, Science
  and Transportation
Washington, D. C. 20510-6125

Dear Senator Hollings:

The Hazardous Materials Advisory Council is pleased to respond to your request for clarification of our recent testimony before the Surface Transportation Subcommittee.

Question #1: What preconditions regarding the existing level of state emergency response training would the HMAC consider necessary in order to fully support a federal emergency response fund?

Answer: HMAC is convinced that federal financial assistance is required in order to ensure that state and local governments are adequately prepared to respond to hazardous materials transportation emergencies. Therefore, we support the establishment of a federal emergency response fund as long as several preconditions are met.

First, an adequate assessment of the needs of state and local emergency responders must be developed . Second, state and local jurisdictions should be preempted from imposing parallel fees on industry for the transportation of hazardous materials while a federal fund is operational. Finally, hazardous materials regulations should be uniform nationally. Each of these points is discussed more fully below.

State and Local Needs Assessment Study

Several major federal studies on hazardous materials have been completed within the past eighteen months, all of which have identified state and local government emergency response training as a major unmet need.[1] These reports indicate, and we at HMAC agree, that there are well over 1 million potential state and

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[1] See U. S. Congress, Office of Technology Assessment, "Transportation of Hazardous Materials: State and Local Activities", March 1986; U. S. Congress, OTA, "Transportation of Hazardous Materials", July 1986; U. S. Department of Transportation, RSPA, "Report to Congress on Hazardous Materials Training, Planning and Preparedness", July 1986.

HMAC is an international membership organization representing the entire hazardous materials transportation industry: shippers, carriers of all modes, container manufacturers, and emergency response and waste clean-up companies.

local emergency responders that may require familiarization with emergency response procedures. However, due to the diverse mix of skills required to respond to any given hazardous materials emergency, it is likely that not all of these individuals actually need formal "classroom-type" emergency response training. Other types of training such as videotapes or slide shows could be used in some instances.

Presently, there are about 500 to 700 different hazardous materials emergency response training courses being offered by various government agencies and private organizations.[2] The quality and level of training offered varies from course to course but the capability to train over 100,000 students per year is in place, according to the DOT. In fact, in just the last five years, again according to DOT, about 380,000 persons have received training.

Unfortunately, despite the recent attention given to emergency response training issues, no researcher has been able to do more than provide a general assessment of the size of the potential emergency response community and describe the training courses and programs that are available. From these gross estimates, different researchers have made widely diverging guesses about the cost of training state and local emergency response personnel. We believe that until such time as more accurate, comprehensive and reliable data are available, Congress should not move to establish a large emergency response training fund.

Fee Preemption

If a state chooses to utilize federal funds for emergency response training, neither that state nor any local governmental entity within that state should be permitted to impose or maintain a permit, registration or other fee for hazardous materials shippers and carriers, that duplicates a comparable federal program.

If, however, a state or local government can demonstrate positively that other emergency response needs exist outside of those for which federal funds are available, funding efforts should be allowed.

Regulatory Uniformity

It is important that prior to the establishment of a federal emergency response fund federal state and local regulations governing the transportation of hazardous materials should be made uniform to the maximum extent practicable. As noted in our testimony, over the past few years progress has been made in this area, but there remains great variation in regulation among states and localities. This lack of uniformity often confuses transporters, thereby increasing transportation costs and making safety compliance difficult.

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[2] Ibid.

HMAC suggests that Congress clearly delineate in HMTA the primary role of the federal government, particularly in the more technical regulatory areas of packaging, inspection, placarding and marking, driver qualifications and routing. Additionally, the advisory role of the federal government in other non-technical areas should not be circumscribed.

Question #2: Your written testimony mentions a Hazardous Materials Coalition activated shortly after the Hazardous Materials Transportation Act was reauthorized in 1981. What were the accomplishments of this industry and government group and what is its current status?

Answer: The Hazardous Materials Coalition, as described in HMAC's testimony, was very active during 1982 and 1983. The organization hosted four regional conferences on hazardous materials transportation that were attended by several hundred federal, state and local government officials, as well as representatives from a variety of industry and public interest organizations. A written report describing the conferences was prepared.

Additionally, the Coalition produced comprehensive draft amendments to the Hazardous Materials Transportation Act. The amendments were presented to the Congress in 1983, but due to the lateness of submission, among other reasons, the amendments were not utilized.

HMAC recently reconstituted the Hazardous Materials Transportation Coalition. Virtually all members of the previous coalition were invited and actual participation is high. In fact, two meetings of the group have been held and no invitee has asked to be removed from the participants' list.

The Coalition has set for itself a goal to prepare again comprehensive draft amendments to the HMTA. It is the intent of the group to have these amendments developed no later than August of this year. If and when the amendments are finalized, they will be formally submitted to the relevant Senate and House Committee and Subcommittee Chairmen for consideration.

The Hazardous Materials Advisory Council thanks you for allowing us an opportunity to expand upon our remarks of April 22, made before the Surface Transportation Subcommittee. If we can further clarify any of our views, or provide additional information, please let us know.

Sincerely,

Albert B. Rosenbaum, III

Albert B. Rosenbaum, III
Former Chairman, HMAC

Department of Energy
Washington, DC 20585

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COMMERCE AUG -4 [illegible] 30

July 31, 1987

Honorable John Danforth
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

Dear Senator Danforth:

Attached is a copy of report number EEG-33 "Adequacy of TRUPACT-I Design for Transporting Contact-Handled Transuranic Wastes to WIPP" dated July, 1986, and a copy of a peer review entitled "A Review of the Report of the Environment Evaluation Group on TRUPACT-I" dated October, 1986. We would like to request that these reports either be included or referenced in the record of the May 12, 1987, hearing before the Subcommittee on Surface Transportation.

Thank you for your assistance with this request.

Sincerely,

for S. R. Foley, Jr.
Assistant Secretary
for Defense Programs

Enclosures [1]

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[1] The enclosures were not reproducible and are in the Committee files.

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